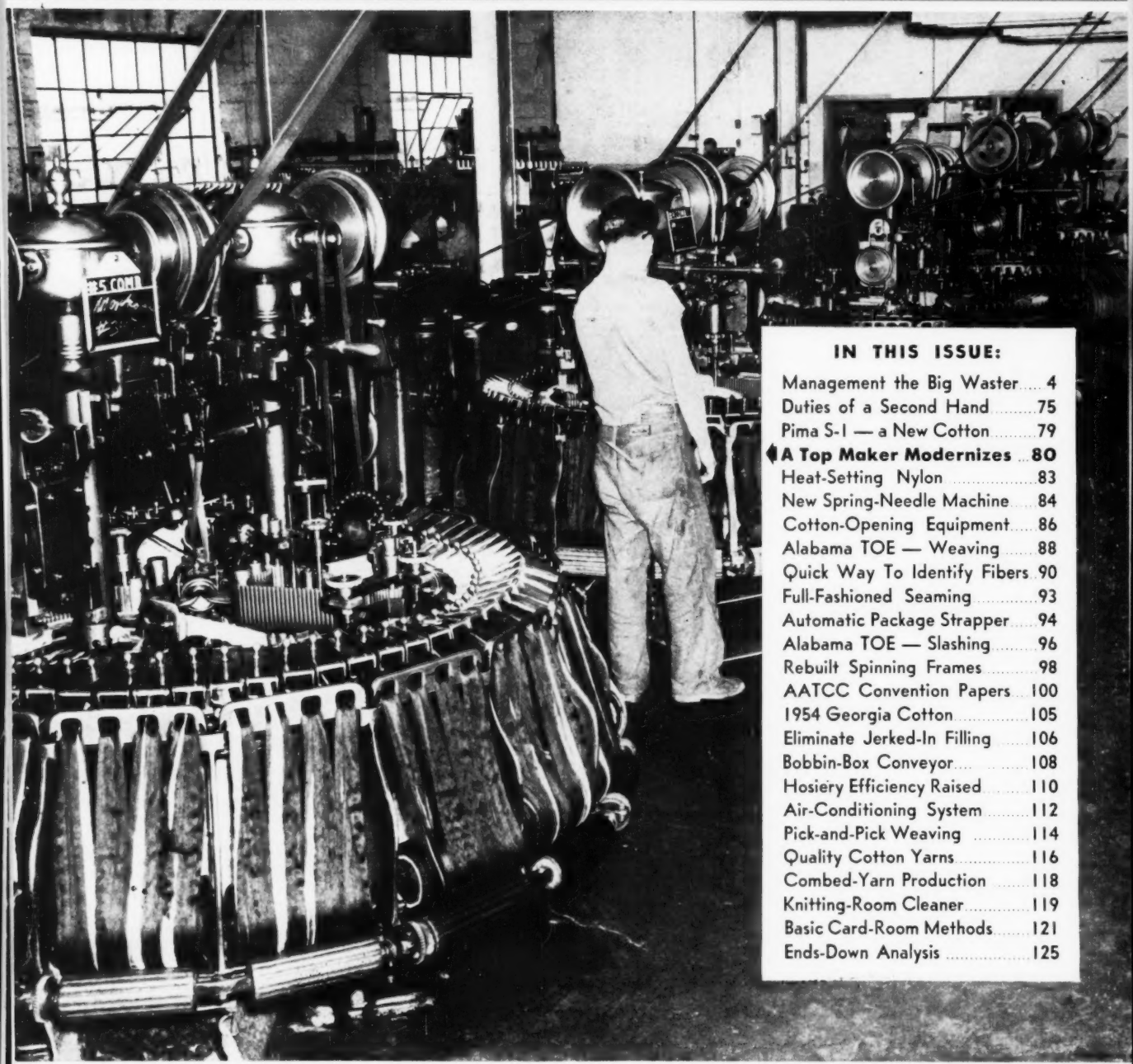
50 CENTS

Textile World

DECEMBER, 1954

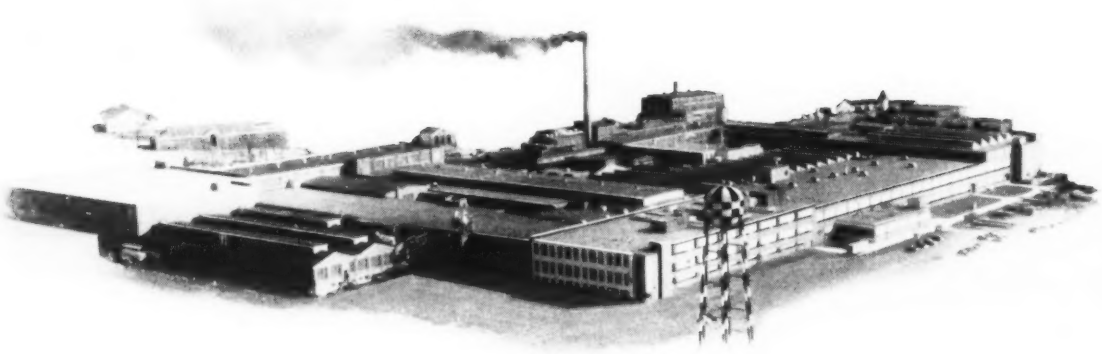


IN THIS ISSUE:

Management the Big Waster 4
Duties of a Second Hand 75
Pima S-1 — a New Cotton 79
A Top Maker Modernizes 80
Heat-Setting Nylon 83
New Spring-Needle Machine 84
Cotton-Opening Equipment 86
Alabama TOE — Weaving 88
Quick Way To Identify Fibers 90
Full-Fashioned Seaming 93
Automatic Package Strapper 94
Alabama TOE — Slashing 96
Rebuilt Spinning Frames 98
AATCC Convention Papers 100
1954 Georgia Cotton 105
Eliminate Jerked-In Filling 106
Bobbin-Box Conveyor 108
Hosiery Efficiency Raised 110
Air-Conditioning System 112
Pick-and-Pick Weaving 114
Quality Cotton Yarns 116
Combed-Yarn Production 118
Knitting-Room Cleaner 119
Basic Card-Room Methods 121
Ends-Down Analysis 125

A McGRAW-HILL PUBLICATION GREENVILLE, S. C. NEW YORK, N. Y.

Serving America's Textile Leaders



The completion of a new spinning mill at the Peerless Woolen Mills, of Rossville, Georgia, marks another important milestone in a long-range reorganization and expansion program started by the firm in 1936. This is Peerless' ninth major project completed to keep pace with the steadily-growing demand for its products and the need for modern and efficient methods and facilities.

Robert and Company Associates worked closely with Peerless in originally planning this program and have carried all of these expansion projects to completion.

For more than 39 years, we have been privileged to serve many of the great names in textiles and other fields, many on more than one project.

For Over 39 Years

ROBERT AND COMPANY ASSOCIATES
Textile Engineering Division
ATLANTA

Serving the Great Names in Textiles

Alabama Mills, Inc.
American Bemberg Corp.
Cabin Crafts, Inc.
Chicopee Manufacturing Corp.
Cluett Peabody & Co., Inc.
Crompton Company
Crystal Springs Bleachery
Davenport Hosiery Mills
Dixie Mercerizing Co.
Fieldcrest Mills, Inc.
B. F. Goodrich Company
The Goodyear Tire and Rubber Company
Mt. Vernon-Woodberry Mills, Inc.
Muscogee Manufacturing Co.
Peerless Woolen Mills
Pepperell Manufacturing Co.
Southern Bleachery and Printworks, Inc.
Standard-Coosa-Thatcher Co.
Swift Manufacturing Co.
Swift Spinning Mills
The Spring Cotton Mills
Thomaston Mills
United Merchants and Manufacturers Co., Inc.
West Point Manufacturing Co.

TEXTILE WORLD, Vol. 104, No. 12, December, 1954. Published monthly with an additional issue in November, McGraw-Hill Publishing Co., Inc. (Maydon Lord & Nagle Division). Publication Offices, 99-129 North Broadway, Albany, N. Y. Editorial and Executive Offices, 330 West 42nd Street, New York 36, N. Y.

Subscriptions: Address correspondence to TEXTILE WORLD, Subscription Service, 99-129 North Broadway, Albany 1, N. Y., or 330 West 42nd Street, New York 36, N. Y. Allow ten days for change of address.

Subscriptions are solicited only from executives, engineers and technicians in textile manufacturing or finishing plants. Position and company connection must be indicated on subscription orders.

Subscription, United States and possessions, $3.00 a year, $4.00 for two years, $5.00 for three years. Canada, $4.00 for one year, $6.00 for two years, $8.00 for three years. Other Western Hemisphere and the Philippines $10.00 for one year, $15.00 for two years, $20.00 for three years. All other countries $15.00 for one year, $25.00 for two years, $30.00 for three years. Entered as second class matter August 29, 1936, at Post Office, Albany, N. Y., under the act of March 3, 1879. Printed in USA. Fifty cents per copy.

"This Mill Has a Future"

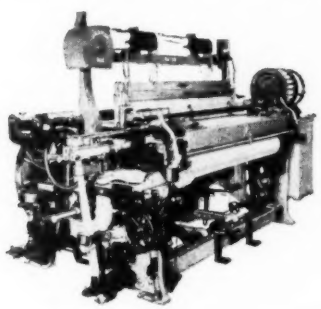
. . . and the reason:

It uses every means, including a sound machinery replacement program, to lower costs and improve profits.

New Draper looms *lower* seconds and labor costs.

New Draper looms *increase* production, efficiency and versatility.

Modernize and economize with New Draper looms for greater profits.



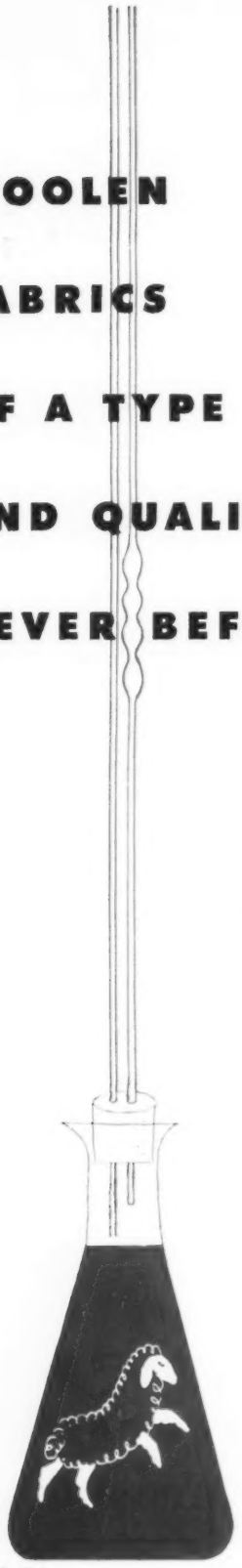
DRAPER CORPORATION

HOPEDALE, MASS.

ATLANTA, GA.
GREENSBORO, N. C.
SPARTANBURG, S. C.

 For more information, write direct or use Reader Service post card.

WOOLEN FABRICS OF A TYPE AND QUALITY NEVER BEFORE ACHIEVABLE IN COLOR...



are entirely possible with the revolutionary IRGALAN colors

Dyers thoroughly grounded in the features of the Irgalan colors have found that lower grades of animal fibred fabrics are actually upgraded . . . in some cases reproducing the quality of higher grade fabrics dyed by conventional methods. Logically then, the higher grades of fibre offer the mill the opportunity to create fabrics in color the quality of which has not been seen before the creation of the Irgalans

SUGGESTION: Bringing together designer, stylist, dyer and finisher for a review of the properties of the Irgalan colors can only result in the development of new and imaginative fabrics.

IRGALAN* colors

GEIGY DYESTUFFS
DIVISION OF GEIGY CHEMICAL CORPORATION
89-91 BARCLAY STREET, NEW YORK 8, NEW YORK

Geigy

dyestuff makers since 1859

BRANCH OFFICES: BOSTON • CHARLOTTE, N. C. • CHICAGO • LOS ANGELES PHILADELPHIA PORTLAND, ORE. • PROVIDENCE • TORONTO • IN GREAT BRITAIN: The Geigy Co., Ltd., Manchester

* *"Irgalan" is a Geigy Registered Trademark.*

Textile World

PUBLISHED MONTHLY

A McGRAW-HILL PUBLICATION

Member of Associated Business Publications and Audit Bureau of Circulations

Edwin D. Fowle.... *Publisher*

Greenville Staff

Prentice M. Thomas..... *Editor-in-Chief*
Richard B. Pressley..... *Associate Editor*
James H. Blore..... *Associate Editor*
Michael London..... *Assistant Editor*
Robert W. Pinault..... *Assistant Editor*

New York Staff

Louise E. Wilie..... *Assistant Managing Editor*
Thomas B. Winston..... *Assistant Editor*
Gloria J. Meeks..... *Editorial Assistant*
Robert McK. Fink..... *Art Director*

E. H. Helliwell..... *Contributing Editor (New England)*
H. S. Knowlton..... *Contributing Editor (Boston)*
J. K. Van Denburg, Jr..... *World News Editor*
George B. Bryant, Jr.... *Chief, Washington Bureau*
Dexter Keezer..... *Economics Director*

Consulting Editors

C. Norris Rabold..... *Finishing*
Francois E. Cleyn..... *Worsted Spinning*
Gustav Zellnik..... *Woolen Spinning*
Henry D. Grimes..... *Wool Chemistry*
Eugene P. Schremp..... *Weaving*
W. C. Westbrook..... *Weaving*
H. B. LeFeaux..... *Knitting*
William A. Newell..... *Textile Research*

Business Department Managers

William B. Dall..... *Promotion*
Thomas Macaluso..... *Production*
Gordon L. Crane..... *Research*
Howard J. Bernard..... *Fact File Issue*

Donald H. White... *Advertising Sales Manager*

PUBLICATION OFFICE: 99 N. B'way, Albany 1, N. Y.
EDITORIAL AND EXECUTIVE OFFICES, 330 W. 42nd Street, New York 36, N. Y., 201 E. Coffee St., Greenville, S. C.

DONALD C. McGRAW, President.
WILLARD CHEVALIER, Executive Vice President.
HENRY G. LORD, Vice President.
JOSEPH A. GERARDI, Vice President and Treasurer.
JOHN J. COOKE, Secretary.
PAUL MONTGOMERY, Executive Vice President, Publications Division.
RALPH B. SMITH, Vice President and Editorial Director.
NELSON BOND, Vice President and Director of Advertising.
J. E. BLACKBURN, JR., Vice President and Director of Circulation.

DISTRICT OFFICES:
BOSTON 16, Ralph L. Chisholm, Dist. Mgr., 350 Park Square Bldg.
CHICAGO 11, M. C. MacKenzie, Dist. Mgr., 520 North Michigan Ave.
NEW YORK 36, Arch W. Fisher, Dist. Mgr., 330 West 42nd St.
John C. White, Jr., Dist. Mgr., 330 W. 42nd St.
PHILADELPHIA 3, H. C. Harvey, Dist. Mgr., Architects Building, 17th and Sansome Sts.
CLEVELAND 15, John G. Sabella, Dist. Mgr., 1510 Hanna Building.
GREENVILLE, S. C., and **TRYON, N. C.,** Wm. G. Ashmore, Dist. Mgr., 201 E. Coffee St., Greenville, S. C., or P. O. Box 1337, Tryon, N. C.
WASHINGTON 4, National Press Building.
OTHER OFFICES: Atlanta 3; Dallas 1; Detroit 26; Los Angeles 14; St. Louis 8; Pittsburgh 22; San Francisco 4; London E.C. 4; Paris 7; Frankfurt; Sao Paulo; Buenos Aires; Mexico City; Manila; Tokyo; Bombay; Melbourne E. 4; Toronto 4.

Contents copyright 1954 by McGraw-Hill Publishing Co., Inc. (All rights reserved)

Table of Contents

DECEMBER • 1954
Volume 104 Number 12

KEYED ACCORDING TO READER INTEREST

SPINNER · WEAVER · KNITTER · FINISHER · ENGINEER · COTTON · SYNTHETICS · WOOL

Feature Articles

y	W	K	F	E	Management the Big Waster (Editorial)	4	C	S	W
y	W	K	F	E	Responsibilities of a SECOND HAND	75	C	S	W
y					PIMA S-1—New American Egyptian Cotton	79	C		
y					How a TOP MAKER Modernized	80			W
		K	F		Heat-Setting NYLON	83		S	
		K			New SPRING-NEEDLE Machine	84	C	S	W
y					COTTON-OPENING Equipment	86	C		
	W				How Alabama Mill Men MAKE LOOMS RUN	88	C	S	W
y	W	K	F	E	Here's a Quick Way To IDENTIFY FIBERS	90	C	S	W
		K			Production Raised 10% in F.-F. SEAMING	93		S	
y	W	K	F	E	AUTOMATIC STRAPPER Cuts Packaging Costs	94	C	S	W
	W				Alabama Mill Men Look at SLASHING	96	C	S	W
y					Rebuilt SPINNING FRAMES Boost Quality	98	C		
	W		F	E	AATCC Convention PAPERS	100	C	S	W
y					What To Expect From 1954 GEORGIA COTTON	105	C		
	W				How To Eliminate JERKED-IN FILLING	106	C	S	W
y				E	Under-Floor BOBBIN-BOX CONVEYOR	108	C	S	
		K			7 Ideas That Raise HOSIERY EFFICIENCY	110	C	S	W
			F	E	AIR-CONDITIONING System Pays Off	112	C	S	W
	W				Better Weaving on PICK-AND-PICK LOOMS	114		S	W
y				E	Testing Assures Quality COTTON YARNS	116	C		
y					Mill Increases COMBED-YARN Production	118	C		
		K		E	KNITTING-ROOM CLEANER Saves Money	119	C	S	W
y					Basic Methods for CARD-ROOM Overseers	121	C		
y					ENDS-DOWN ANALYSIS Pinpoints Trouble	125	C	S	

Equipment and Supply News

y					Tek-Ja Process for NO-TWIST YARN	129	C	S	W
	W	K	F	E	Automatic CLOTH-INSPECTION Machine	130	C	S	W
		K			Fidelity 400 HOSIERY MACHINE	130		S	
	W				PARALLEL and CHECKING Motions	132	C	S	W
y					Two-Way LAP CONTROL	132	C	S	
y					OPENER and Rotary Feed	132	C	S	W
y					Draft-Wave RECORDER	134	C	S	W
			F		Selvage TRIMMER	134	C	S	W
y			F		TWIST SETTER	134		S	
y					Hy-Lo INDICATOR	134	C	S	W
y					Capacitance-Type UNEVENNESS TESTER	136	C	S	W
			F		Improved CLOTH-SOAPING Machine	136			W
y	W	K	F	E	Automatic BAGGER	136	C	S	W
y				E	Improved CARD DRIVE	164	C	S	
y					Direct-Reading SHADOGRAPH	166	C	S	
			F		DYE-PACKAGE Tester	166	C	S	W

Kinks and Short-Cuts

	W				CLOTH-ROLL TUBES Eliminate Creases	144	C	S	W
y					How To Make Nubs on a COTTON CARD	144	C	S	
y					Swing Board Improves Feed on WOOL CARDS	145		S	W
				E	DOUBLE-SIDED RACK Will Not Collapse	145	C	S	W
y	W	K	F	E	How To Remove BROKEN TAPS	147	C	S	W
	W				Blanket Cloth Eliminates JERK-BACKS	147	C		W
y	W	K	F		Control Reduces Lap and Sliver VARIATION	147	C	S	W
y	W	K	F	E	Water Screen Keeps FIRE SYSTEM Clean	148	C	S	W
		K			WASTE HOLDER Keeps Looping Room Tidy	148	C	S	W
y					How To Prevent OPENING-ROOM Fires	150	C	S	W
		K			LIGHTING DEVICE Aids Garment Inspection	150	C	S	
			F		Carbon-Paper Sandwich Checks PAD NIPS	150	C	S	W
	W				Cardboard Marker Stops MIXED FILLING	152	C	S	W
		K			Steel Ball Helps To Make Better HOSIERY	152	C	S	W
		K			YARN TRUCKS Save Space	152	C	S	W
		K			Reel Stop Motion Prevents SHORT SKEINS	154	C		

DEPARTMENTS

Book Reviews	188
Calendar	207
Editorial	4
Equipment and Supply News	129
Kinks and Short-Cuts	144
Mill Maintenance	162
New Dyes and Chemicals	138
News About Men	217
News About Mills	212
News About Suppliers	208
News of the Month	205
Obituary	219
Pointers for Supervisors	127
Questions and Answers	142
Reader Service	157
Round Table	141
Textile Tickles	141
Trade Literature	158

Advertisers' Index 227

The LONG-RANGE VIEW

Management the Big Waster

- **Obsolescence is the industry's biggest waste**
- **It is a big cause of our boom-and-bust cycle**

NOT MANY MILL MEN SEEM TO REALIZE that many mill managements make far more waste than their workers. Nearly all mills have control programs to prevent the waste of good stock by workers; nearly all have cost-control, timestudy, or production standards to guard against the waste of time by workers. Yet, management itself often makes waste that staggers the economics of the whole industry and plays havoc with the living standard of thousands and thousands of people connected with the industry.

Obsolescence Is Management Waste

The most common complaint we hear since textile business has been on the mend this fall is that prices are too low and profits too slim. In the face of the obsolescence rampant in the textile industry, many mill men should think twice before they complain about low profits.

In a recent study that compared 1940 spinning frames with 1954 frames, it was shown that 1940 spinning frames are a waste of worker time. Their production is too costly per unit, compared with 1954 machinery. Yet, many of the mills complaining of low profits are still running band-driven spinning frames. There have been no band-driven frames built since 1915! It is estimated by various well-informed men that we still have 5- to 8-million band-driven spindles, from a quarter to a third of all U.S. spindles.

If similar comparisons were made, it is almost certain that similar conditions of wasteful obsolescence would be found in looms, woolen and worsted spindles, full-fashioned and circular knitting machines, dyeing and finishing equipment, etc.

A Drag on the Economy

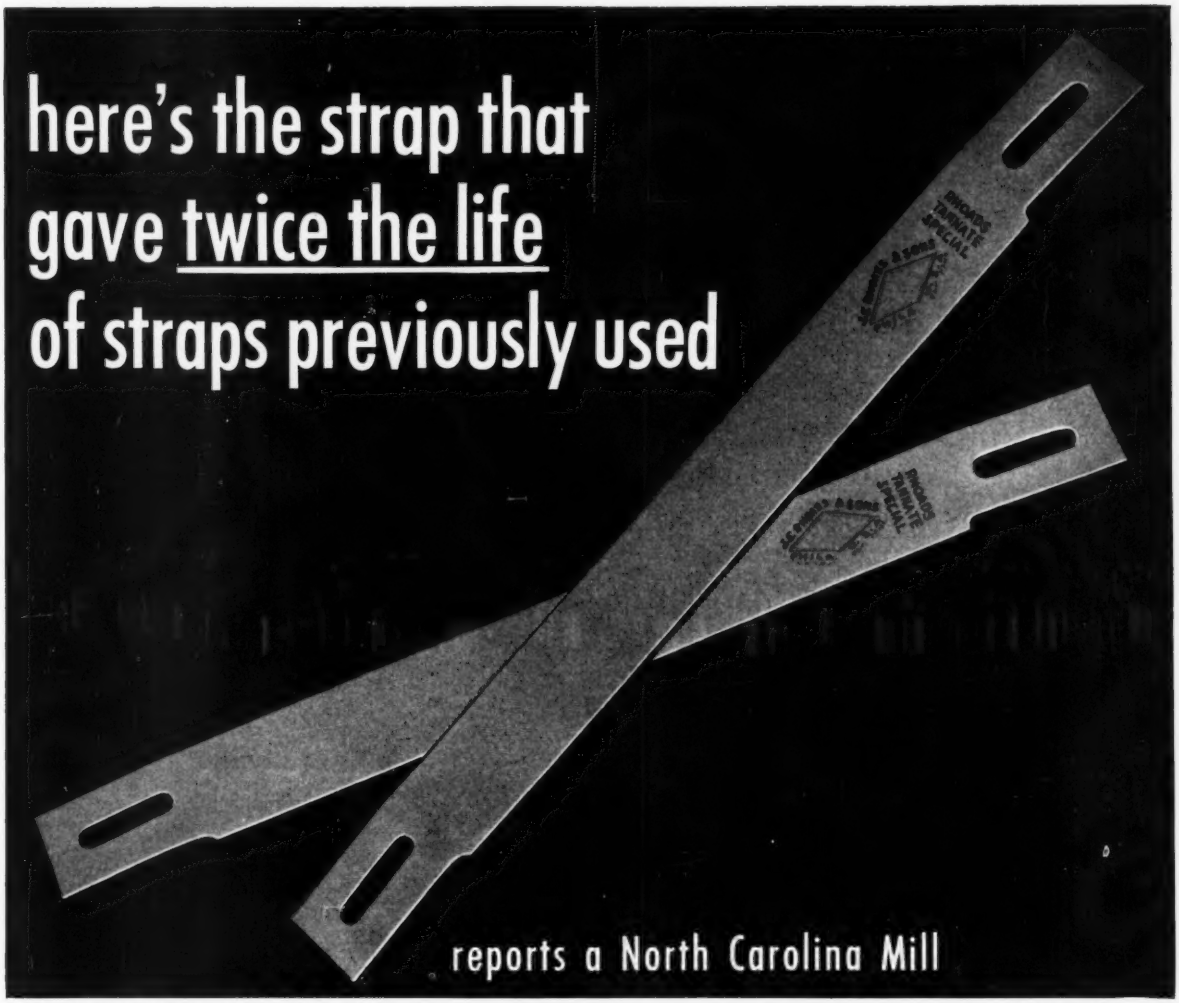
The textile industry is notorious for its boom-and-bust cycle. It is apparent to thoughtful people that much of this unfortunate character of the industry is caused by marginal operators with their obsolete mills. Their operations—appallingly wasteful and expensive in production-worker time—are profitable only in a period of high demand. Then they feast. They glut the market. Then they bust—and their screams of bad business shake the whole economics of the industry.

What these people do not seem to realize—or if they realize it, fail to heed—is that they are playing with the lives of many people. The textile industry is so big and is so closely related at both ends with other big industries that millions of people are affected by feast-and-bust business in textile mills. The textile industry is so important and so widespread in its ramifications that it can cause a quiver in the whole U.S. economy. The waste of obsolescence in the textile industry is to some degree a drag on the living standards not only of textile workers but of nearly all of 160-million Americans.

The mill managements that complain about prices and sit down and wait for the next feast should get the motes out of their eyes and look around. Their own wastefulness through obsolescence is a big cause of the bust they dread. And managements that needle their workers about waste of stock and time should look at the equipment they provide for the workers. Chances are that they themselves are causing more waste than all the workers combined.

A. M. Thomas

here's the strap that gave twice the life of straps previously used



reports a North Carolina Mill

They report check strap life averaging 5,000 to 5,500 loom hours . . . Twice the life of the straps previously used on these looms. This mill uses **Tannate Special** BiCut check straps on X-2 model Draper looms. They weave sateens and twills at 182 picks per minute, during three 8 hour shifts per day, six days per week.

Exclusive design . . . is the reason why so many mills are getting twice the life from Tannate special checks. Rhoads patented design permits BiCut check straps to conform to the angle of the picker stick. As a result, the picker stick strikes the full face width of the strap. More leather hugs the stick to cushion its flight and box the shuttle perfectly.

In addition to more efficient operation, BiCut checks last longer because they wear uniformly from edge to edge and always drop clear of the binder nuts and bolts. What's more, the smooth grain of Tannate special leather is specially treated to give it a satin-like finish that makes a better friction surface. Tannate special leather is cut to meet your requirements in our patented BiCut design, straight or curved, all available in four different weights, three degrees of firmness.

Endless checks also made from Tannate Special Leather are available single or double ply, in two weights. So, no matter what kind of check straps you are using, it will pay you to try Tannate Special Checks. See for yourself why so many mills have consistently reported twice the life with Tannate Special Checks.

what is Tannate® Special Leather?

Tannate special leather is a Rhoads exclusive. It's custom tanned to build into it all the characteristics so necessary for efficient loom operation. For specifications, write J. E. Rhoads and Sons, 35 North Sixth Street, Philadelphia 6, Pa.

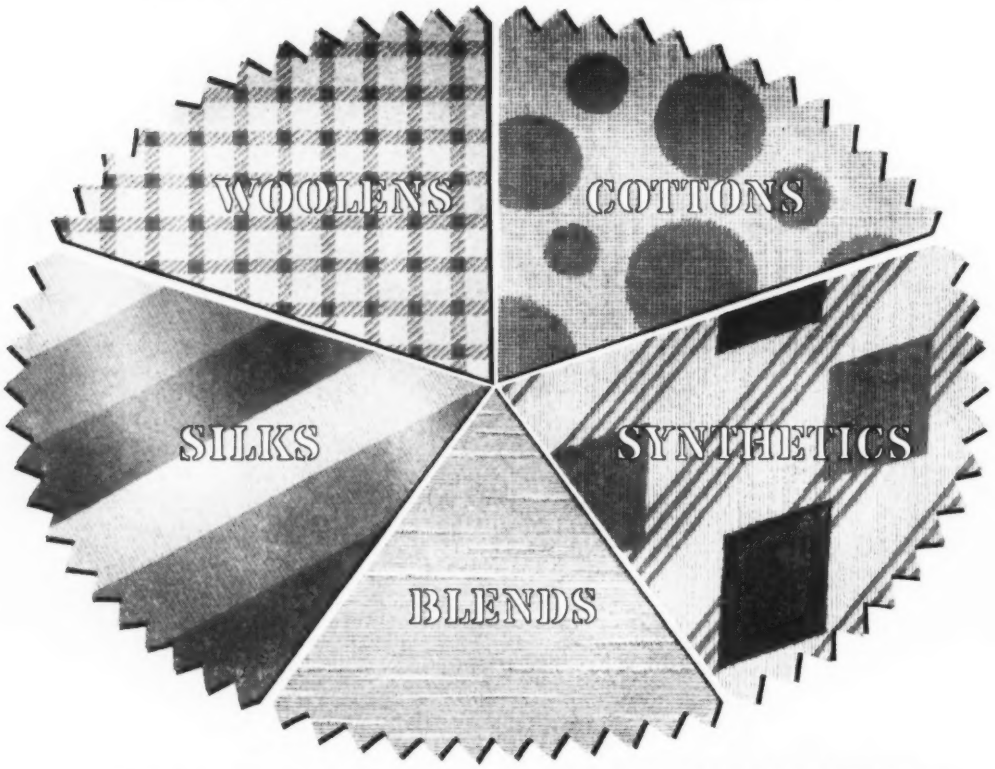
RHOADS

INDUSTRIAL LEATHERS

ATLANTA • PHILADELPHIA • NEW YORK • CHICAGO

 For more information, write direct or use Reader Service post card.

No Matter What The Material . . .



. . . When You Use Soap for PROCESSING—
You Can Depend On

COLGATE FORMULA 10

To Do The Job!

Because—it gives a better final result . . . 92% Sodium Oleate . . . titer on the fatty acids 10° Centigrade . . . easily dissolved . . . excellent detergent effect . . . mild fulling action when you want it. Easily rinsed at low temperatures with no bad odor left in the fabric.

Yes, you can depend on COLGATE FORMULA 10* for dozens of textile processing and finishing jobs.

For low-temperature washing *ordinarily requiring olive oil soaps*, we recommend COLGATE FORMULA 25.*

*Sold in eastern states only.

See your local C.P. representative for details, or write today to our Industrial Department.

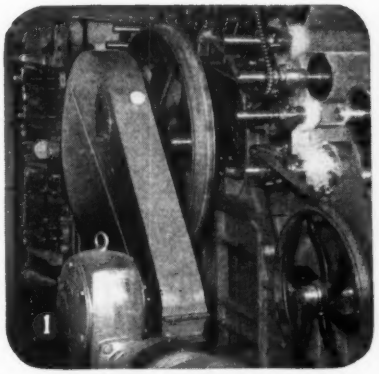
FREE! New 1954 Handy Soap and Synthetic Detergent Buying Guide. Tells you the right product for every purpose. Get a copy from your C. P. representative, or write us at any one of the offices listed below.

COLGATE-PALMOLIVE COMPANY • **Jersey City 2, N. J.** • **Atlanta 5, Ga.** • **Chicago 11, Ill.**

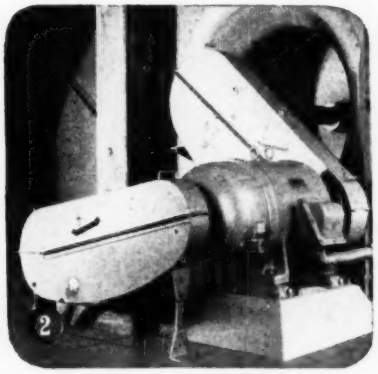
If you need a drive for jobs like these--

YOU'RE MONEY AHEAD

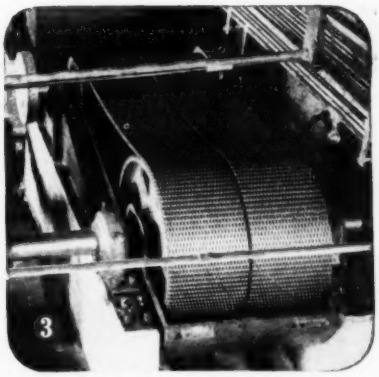
with LINK-BELT Silent Chain



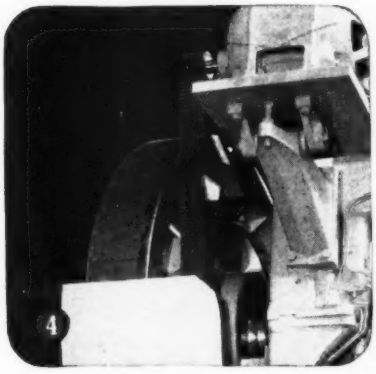
1 ADVERSE OPERATING CONDITIONS. Humidity, heat, cold do not lower Link-Belt Silent Chain's better-than-98% efficiency.



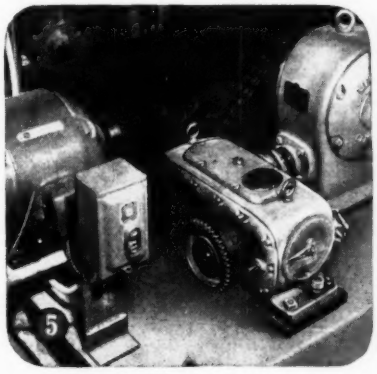
2 UNFAILING SAFETY. Dependability assures continued production. On above tunnel ventilators, Link-Belt drives protect human life.



3 LARGE OR SMALL HP. A versatile line, Link-Belt Silent Chain drives are available from fractional to thousands of horsepower.



4 LARGE RATIOS. Link-Belt Silent Chain operates efficiently on extremely short centers at ratios as high as 10-to-1.



5 LIMITED SPACE. Easy to assemble in close quarters, Link-Belt Silent Chain permits built-in drives, compact housings.

6 HIGH SPEED. After 13 years on this newspaper press at speeds up to 4700 fpm, Silent Chain is still efficient.

Here's why Link-Belt Silent Chain Drives offer you more per dollar spent:

- Lower cost—often lower in first cost, always lower in ultimate cost.
- Longer life—trouble-free performance for 25 or 30 years is common.
- No dismantling machine or removing sheaves for repairs.
- Better than 98% efficiency.
- Maintained ratio assures full productive capacity.
- Slipless action assures a better product.
- Easy to install.
- Safe to employees—operates in oil-retaining casing.

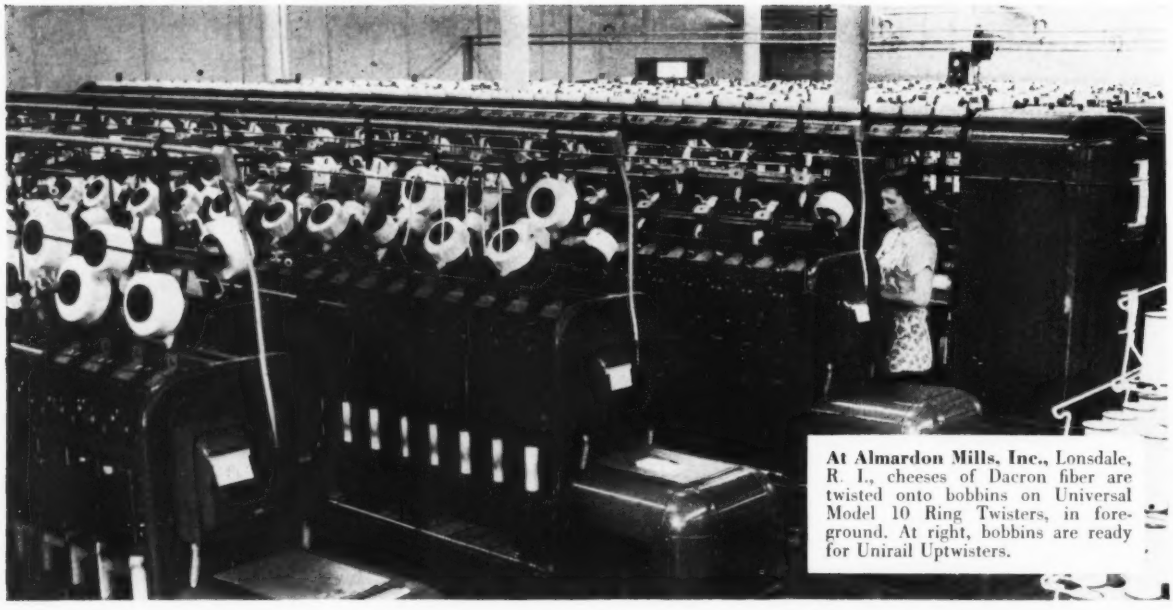
For all the facts, see your Link-Belt distributor or factory branch store, or write for new Book 2425.

13.440

LINK-BELT

SILVERSTREAK SILENT CHAIN DRIVES

LINK-BELT COMPANY: Executive Offices, 307 N. Michigan Ave., Chicago 1. To Serve Industry There Are Link-Belt Plants, Sales Offices, Stock Carrying Factory Branch Stores and Distributors in All Principal Cities. Export Office: New York 7; Canada, Scarboro (Toronto 13); Australia, Marrickville, N.S.W.; South Africa, Springs. Representatives Throughout the World.



At Almardon Mills, Inc., Lonsdale, R. I., cheeses of Dacron fiber are twisted onto bobbins on Universal Model 10 Ring Twisters, in foreground. At right, bobbins are ready for Unirail Uptwisters.

Almardon Mills Solves the Dacron-Twisting Problem

Increases production of top-quality yarn to a new high — cuts costs to a new low — with Universal equipment.

Supplied with zero twist, and requiring a high final twist, Dacron has introduced new throwing problems to mills processing this new fiber.

Almardon Mills was no exception. Using its previous equipment, this well known producer of fine quality Dacron piques and lenos was redrawing 70 denier Dacron from cheeses to bobbins, then throwing 20 turns of twist on 12 ounce package uptwisters. Uptwisting speed was slow, the filaments opened, and breakage was high. Flyers were necessary, and due to the abrasive action of Dacron, had to be replaced at every doff. And, if relaxed yarn was required, the added cost of rewinding was necessary.

Here, in the words of Chester H. Boyce, Almardon Vice President, is how this mill solved the Dacron problem:

"We worked out a process with Universal, combining their Model 10 Ring Twisters with their new Unirail® Headless Package Uptwisters. This changed the picture completely. With the Model 10 creels we can insert two turns of twist direct from the cheeses without redrawing. High speed uptwisting is then possible without separation of the filaments. And the Model 10 bobbins are the ideal supply for Unirail Uptwisters.

"Our Unirail Uptwisters put in remaining 18 turns at 14,000 r.p.m. without flyers. And right there we've cut down labor costs and boosted production. No more flyer replacements, and breakage is practically nil.

"Now, with our Universal combination, we're producing big pound-and-a-half Dacron packages — headless packages with *controlled relaxation of the yarn* without rewinding. In our experience, this is the best package you can get for delivery to warping and quilling."

If you are one of the many mills now working with Dacron, why not investigate how this Universal system can improve your own production picture? For helpful information on this — or on any other twisting or winding application, see your Universal representative.

UNIVERSAL WINDING COMPANY

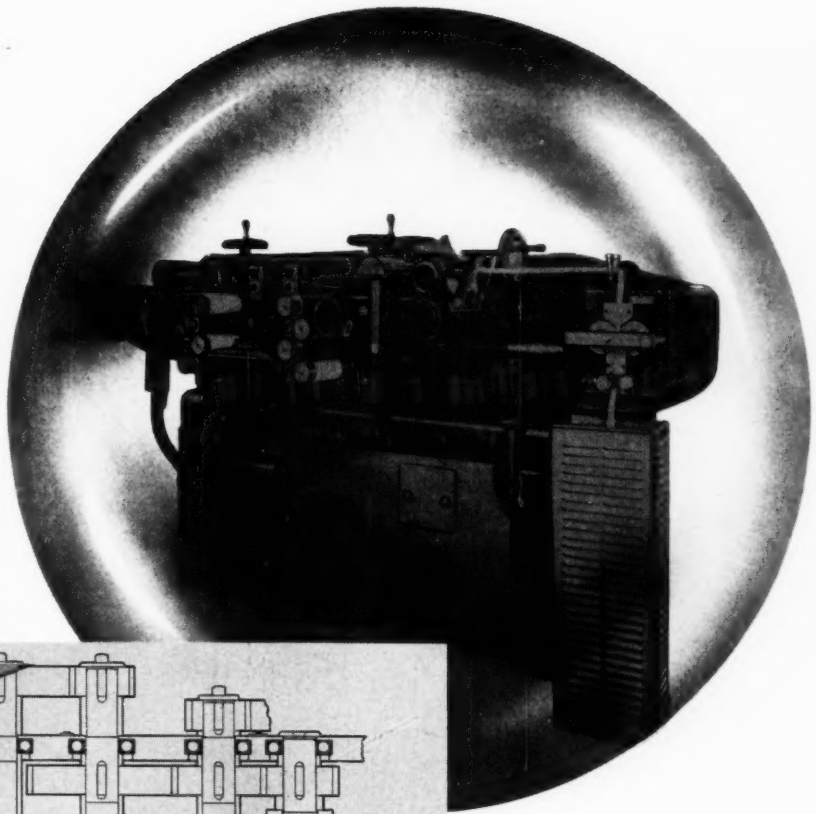
P. O. Box 1605, Providence 1, Rhode Island

BOSTON, PHILADELPHIA, UTICA, CHARLOTTE, ATLANTA, LOS ANGELES; MONTREAL, HAMILTON, CANADA; MANCHESTER, ENGLAND; PARIS, FRANCE; BASLE, SWITZERLAND

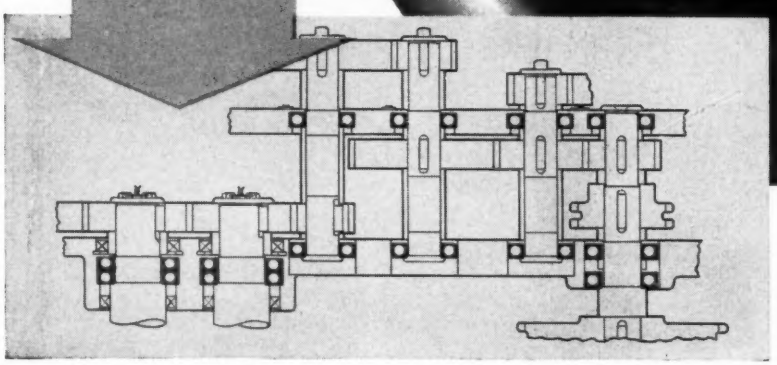
Agents in every principal textile center throughout the world
Winding and Twisting Machinery for Natural and Synthetic Yarns

For more information, write direct or use Reader Service post card.

56 New Departures in the New Turbo Stapler



The main drive and outboard shafts of the Turbo Stapler show typical application of single and double row New Departure bearings.



New short cut to staple fiber spinning! The new Turbo Stapler reduces tow to sliver in *one machine* . . . brings about substantial savings in processing operations.

Mounted on New Departure **ball** bearings, shafts of this machine are held in smooth-running, rigid alignment, assuring uniformity of product.

Most of the 56 New Departure **ball** bearings in the Turbo Stapler are single or double seals. Keeping lubricant in . . . fibrous foreign matter out . . . New Departure sealed bearings offer the kind of oil- and grease-free conditions demanded by textile manufacturers. And, they reduce maintenance to the minimum, too!

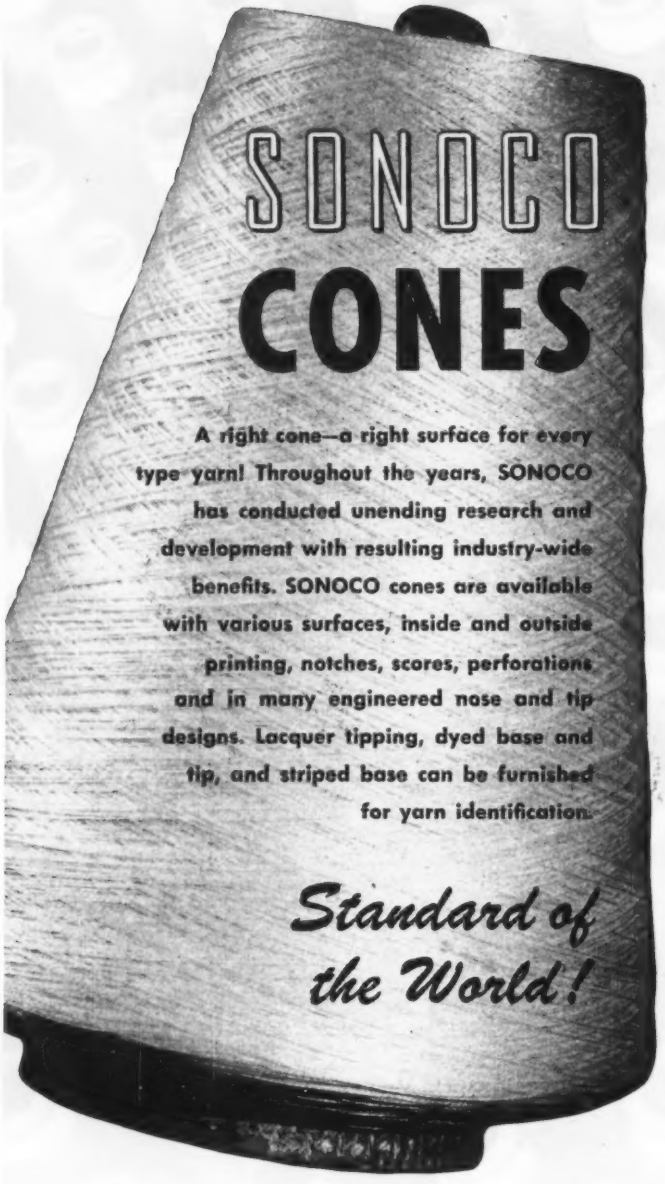
For complete information—talk to your New Departure textile bearing engineer, today!

NOTHING ROLLS LIKE A BALL

NEW DEPARTURE
BALL BEARINGS

NEW DEPARTURE • DIVISION OF GENERAL MOTORS • BRISTOL, CONNECTICUT
Plants also in Meriden, Connecticut, and Sandusky, Ohio
In Canada: McKinnon Industries, Ltd., St. Catharines, Ontario

 For more information, write direct or use Reader Service post card.


SONOCO
CONES
A right cone—a right surface for every type yarn! Throughout the years, SONOCO has conducted unending research and development with resulting industry-wide benefits. SONOCO cones are available with various surfaces, inside and outside printing, notches, scores, perforations and in many engineered nose and tip designs. Lacquer tipping, dyed base and tip, and striped base can be furnished for yarn identification.
Standard of the World!

Sonoco Products Company

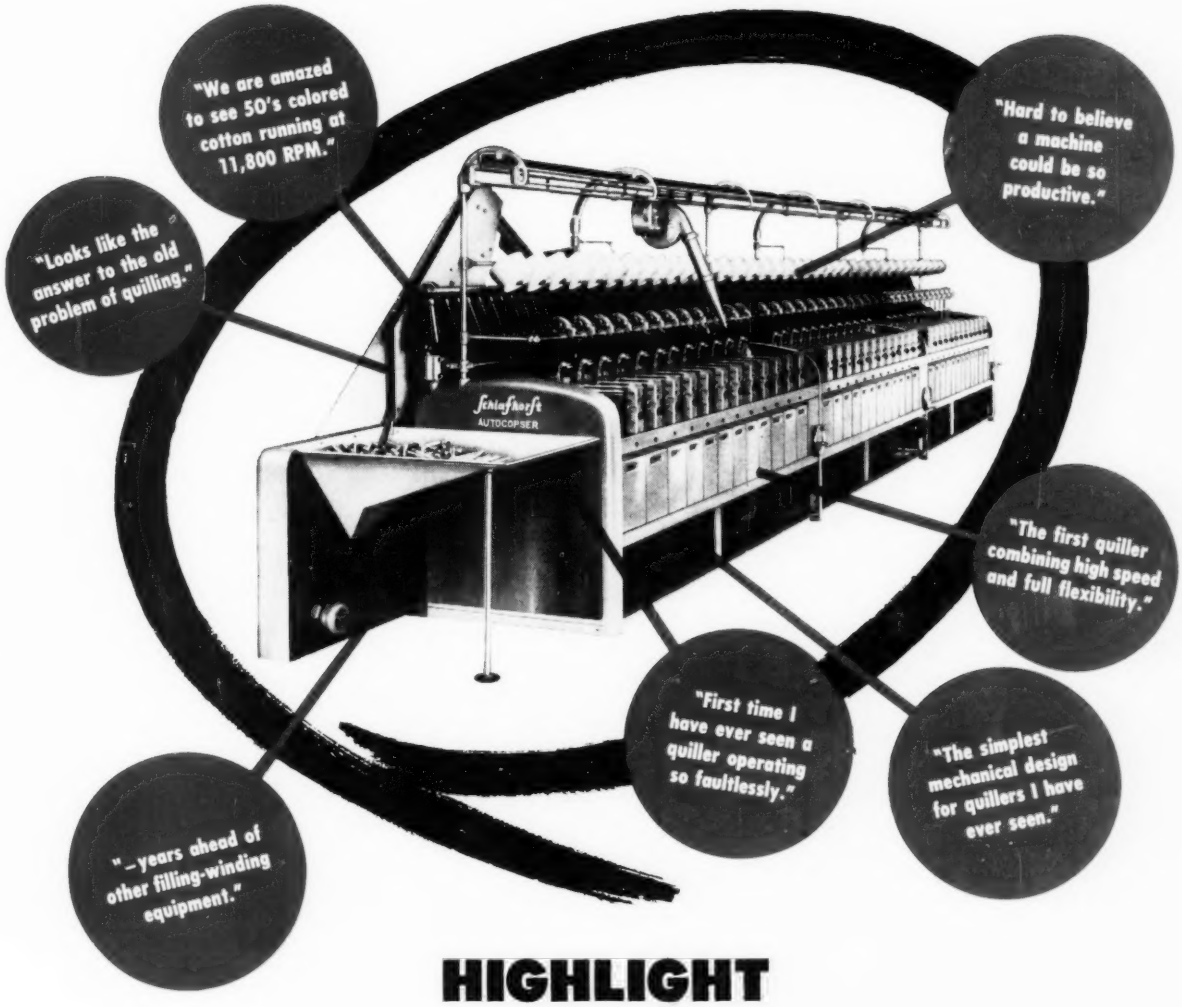
MAIN OFFICE—HARTSVILLE, S. C.

MYSTIC, CONN. LOS ANGELES, CAL. BRANTFORD, ONT. LOWELL, MASS.
PHILADELPHIA, PA. AKRON, IND. GARWOOD, N.J. GRANBY, QUEBEC

MEXICO: Sonoco de México, S. A., Apartado 10239, México, D. F.

DEPENDABLE SOURCE OF SUPPLY

sonoco
SERVES THE WORLD
PAPER CARRIERS
REG. U.S. PAT. OFF.


"We are amazed to see 50's colored cotton running at 11,800 RPM."
"Looks like the answer to the old problem of quilling."
"Hard to believe a machine could be so productive."
"The first quiller combining high speed and full flexibility."
"First time I have ever seen a quiller operating so faultlessly."
"The simplest mechanical design for quillers I have ever seen."
"—years ahead of other filling-winding equipment."
Schlafhorst
AUTOCOPSER

HIGHLIGHT

OF THE GREENVILLE SHOW!

A 12 page booklet giving details of the AUTOCOPSER is yours for the asking. Write The Terrell Machine Co., P. O. Box 928, Charlotte, N. C.

Above are actual comments heard at the recent Southern Textile Exposition. Everybody was talking about the AUTOCOPSER Automatic Quiller . . . the first public demonstration of this amazing machine in America.

The AUTOCOPSER is extremely versatile and economical to operate. It is engineered for continuous, high speed quilling, and requires very little maintenance. These outstanding performance features were evident to all who observed the AUTOCOPSER in operation at the Greenville Show.

Schlafhorst **AUTOCOPSER**

First Name in Automatic Quillers the World Over

MANUFACTURED BY W. SCHLAFHORST & CO., M. GLADBACH, WEST GERMANY
EXCLUSIVE U. S. REPRESENTATIVE: THE TERRELL MACHINE CO., INC., CHARLOTTE, N. C.

WE'RE AT HOME...

OUT ON A LIMB!

As part of our Wool Oil Service we Guarantee you Definite Benefits in Writing!

We're willing to go out on a limb—guarantee you definite benefits in writing—because the wool oil service we provide, *the most comprehensive in the industry,* has proved so completely successful wherever used. Here's what we offer:

Scientific Analysis of your mill operations by a Socony-Vacuum engineer.

Complete Engineering Report with recommendations of correct wool oils.

Proved Products that meet desired degrees of scourability and discoloration resistance.

Laboratory Service where tests are made of mill samples to control performance on the job.

Progress Reports to show efficiency of fiber lubrication, recommend further improvements.

Why not take advantage of this exclusive wool oil service to improve *your* operations?

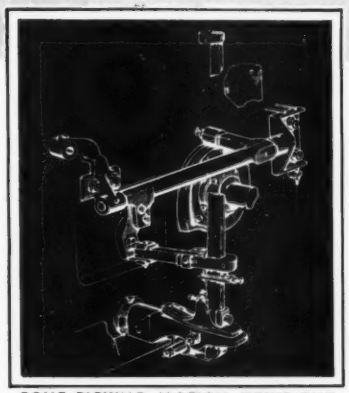
SOCONY-VACUUM
...process products

Process Products
SOCONY VACUUM

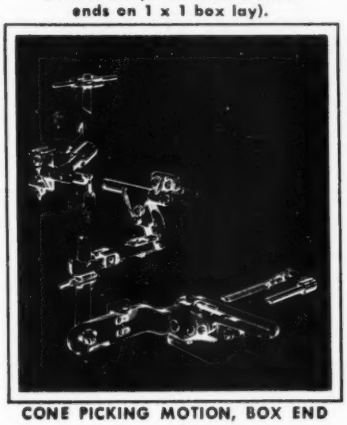
SOCONY-VACUUM OIL CO., INC., 26 Broadway, New York 4, N.Y. and Affiliates: MAGNOLIA PETROLEUM CO., GENERAL PETROLEUM CORP.

No. 2 in a series explaining

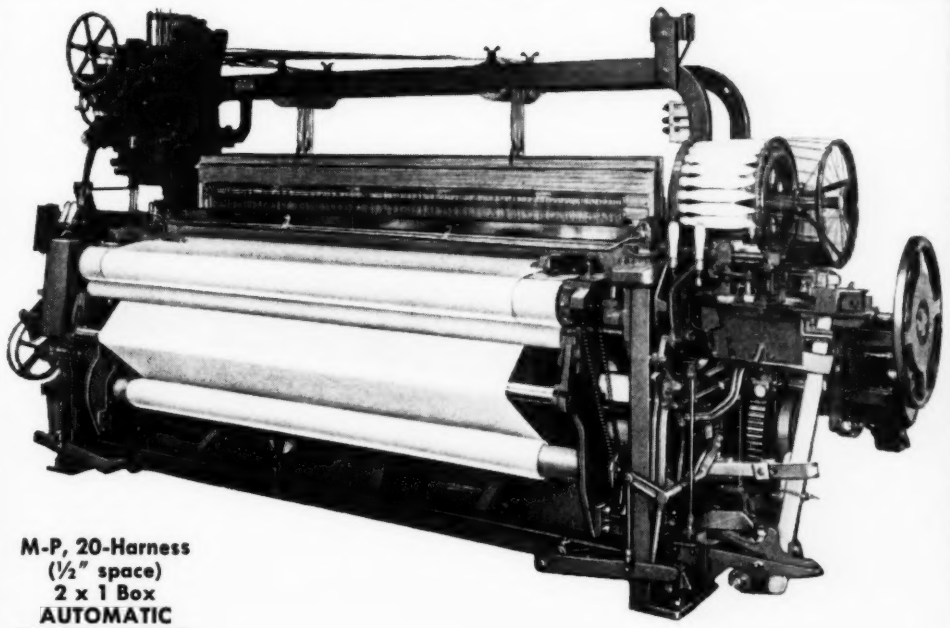
Why C&K's New Multi-Purpose Looms mean More Profit to any mill



CONE PICKING MOTION, DRIVE END
(Center fire picker used at both ends on 1 x 1 box lay).



CONE PICKING MOTION, BOX END



M-P, 20-Harness
(½" space)
2 x 1 Box
AUTOMATIC
FILLING MIXING
HEAD LOOM

3 Ways in which CONE PICKING helps make More Profit on all types of M-P Looms

1: LOW MAINTENANCE . . .
because of less weight of moving parts . . . less wear and tear on the entire picking motion . . . and adjustable back bearing to compensate for wear.

2: HIGHER SPEEDS . . .
made possible by better design and materials. For example, drop-forged steel picking shafts — with larger, hardened trunnions and shock-absorbing devices that "take the kick out of the pick" — such features permit higher speeds without penalties.

3: INCREASED WORK-ASSIGNMENTS . . .
may be achieved as the result of many M-P features including cone picking (SEE CHECK LIST) . . .

And, while cone picking may not be generally regarded as a direct contributor to better quality, still this trouble-free mechanism plays its part in maintaining the mechanical precision of loom operation without which quality could not be consistently held at top levels.

Check *your* objectives on the check list. Then see C&K without delay, for the new M-P Looms you need in your mill.

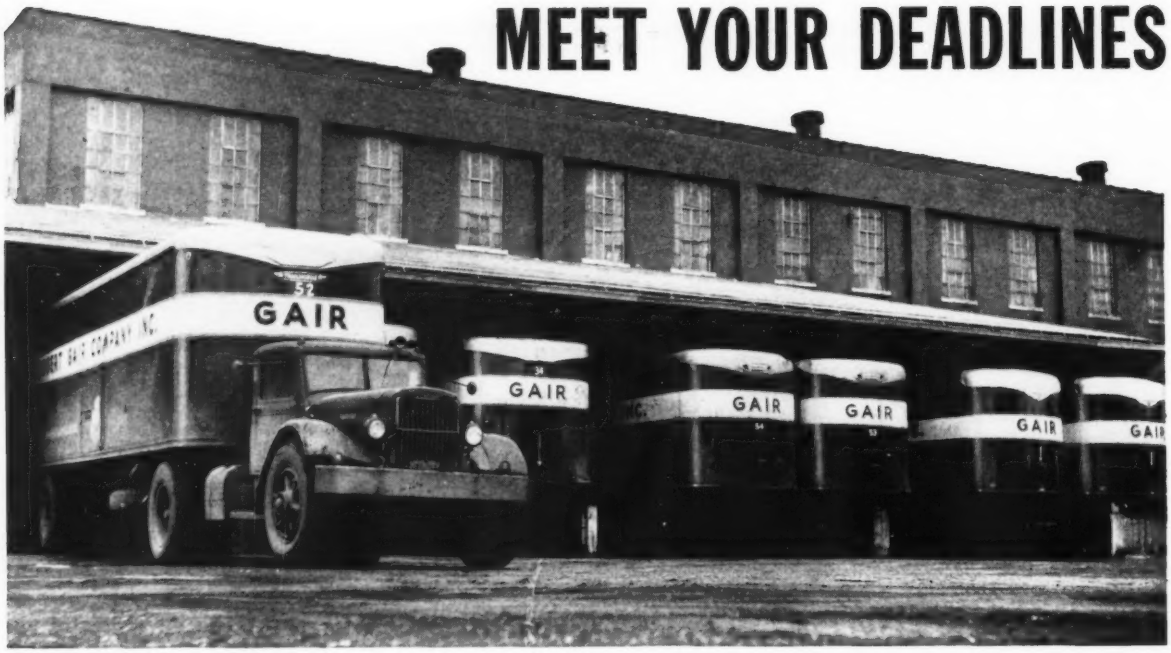
THESE NEW M-P FEATURES CONTRIBUTE→TO THESE PROFIT FACTORS

	Better Quality	Increased Work Assignments	Increased Production (Speed X Efficiency)	Lower Maintenance	Versatility
Rotary Magazine: For single color, or for multiple-color work (up to 4).	✓	✓	✓	✓	✓
Scissors Thread Cutter	✓	✓	✓	✓	✓
Vacuum Filling Control	✓	✓	✓	✓	✓
Cone Picking		✓	✓		✓
More Rugged Basic Frame: Common to all M-P Looms.		✓	✓	✓	✓
Letoffs: New composite type. Also other standard and special types.	✓	✓	✓	✓	✓
Takeups: All purpose, silk, or lower winding roll.	✓			✓	✓
Lay: Precision-built and convertible — 1x1, 2x1, 4x1, 4x2, and 4x4	✓	✓			✓
Shedding Mechanisms: Knowles Head — 25 Harness, 4/10" Space Knowles Head — 20 Harness, 1/2" Space Dobby — 20 Harness, 15/32" Gauge Undercam Jacquard	✓	✓	✓	✓	✓
Feelers: As required.			✓	✓	✓
Driving & Shipping	✓	✓	✓		
PRECISION, STRENGTH, SIMPLICITY Throughout Every M-P Loom	✓	✓	✓	✓	✓

Crompton & Knowles
LOOM WORKS
WORCESTER 1, MASSACHUSETTS, U. S. A.

Charlotte, N. C. • Philadelphia, Pa. • Allentown, Pa.
Crompton & Knowles Jacquard & Supply Co., Pawtucket, R. I.
Crompton & Knowles of Canada Limited, Montreal, Quebec

GAIR can help MEET YOUR DEADLINES



with assured delivery service

It's not hard to get a promise of shipping container delivery. But often there are a number of "ifs" in that promise. "Ifs" that don't exist at Gair.

"If our supply of raw materials permits, we'll be able to deliver on schedule" is one of the "ifs" you won't find at Gair. Our raw materials are grown in our own forests, processed in our own plants. We don't run short.

"If our manufacturing schedule holds up" is another qualification you won't hear from Gair. We have *eleven plants*, equipped to fabricate whatever quantities and types of corrugated or solid fibre shipping containers you need.

"If local transportation facilities stay on schedule" is a third worry you don't have with Gair. Gair trucks provide a neighborhood service from strategically located plants.

Check your nearest Gair plant for the complete story on Gair-designed shipping containers to meet your specific needs. SC.4.2

GAIR CONTAINER PLANTS

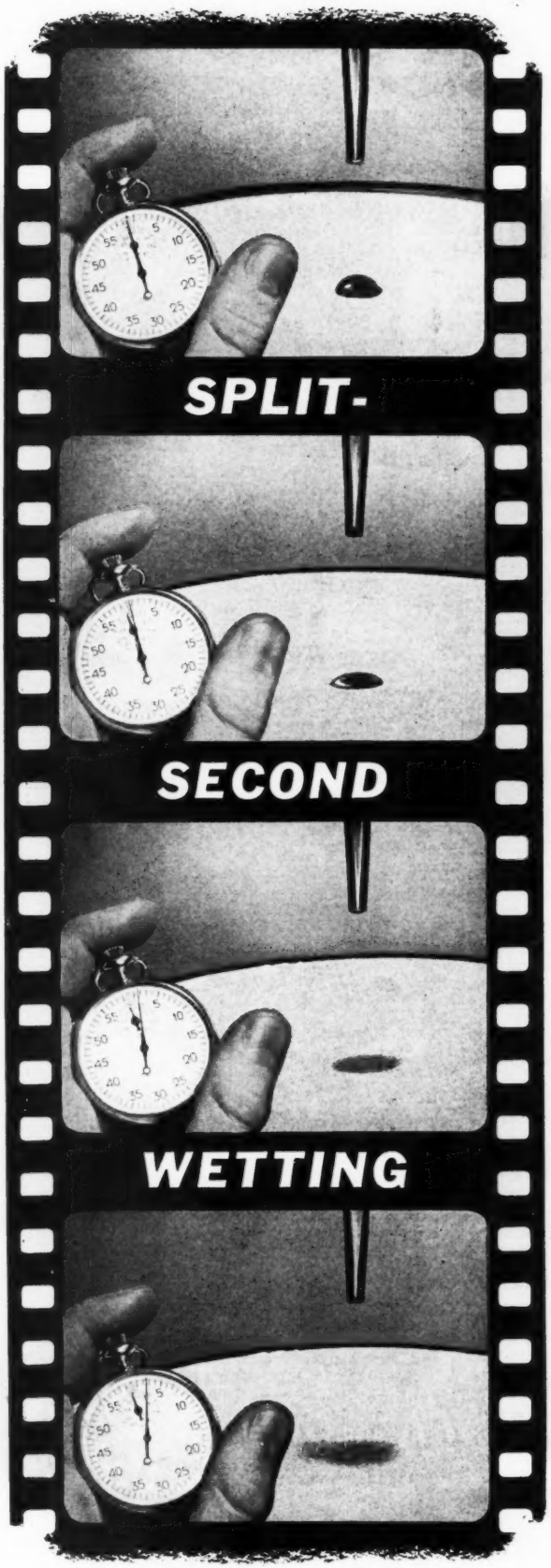
Cambridge, Mass. • Cleveland, Ohio • Holyoke, Mass. • Los Angeles, Cal. • Martinsville, Va. • No. Tonawanda, N.Y. • Philadelphia, Pa. • Portland, Conn. • Richmond, Va. • Syracuse, N.Y. • Teterboro, N.J.

GAIR

SHIPPING CONTAINERS
FOLDING CARTONS
PAPERBOARD

ROBERT GAIR COMPANY, INC. • 155 EAST 44TH STREET • NEW YORK 17

For more information, write direct or use Reader Service post card.



NOPCOWET® 86-A

is highly effective as a wetting agent

...as a rewetting agent, too!

If you haven't tried Nopcowet 86-A, it's high time you did. You'll find this new concentrated Nopco product exceptional as a wetting and penetrating agent with either neutral or dilute acid and alkaline solutions.

You'll find it exceptionally fast. You'll find it economical. You'll soon say it's unequaled for wetting out cotton piece and knit goods. It is also used in stock, package, and pad dyeing operations. Using the same product as both wetting and rewetting agent will save you much fuss and bother—and money.

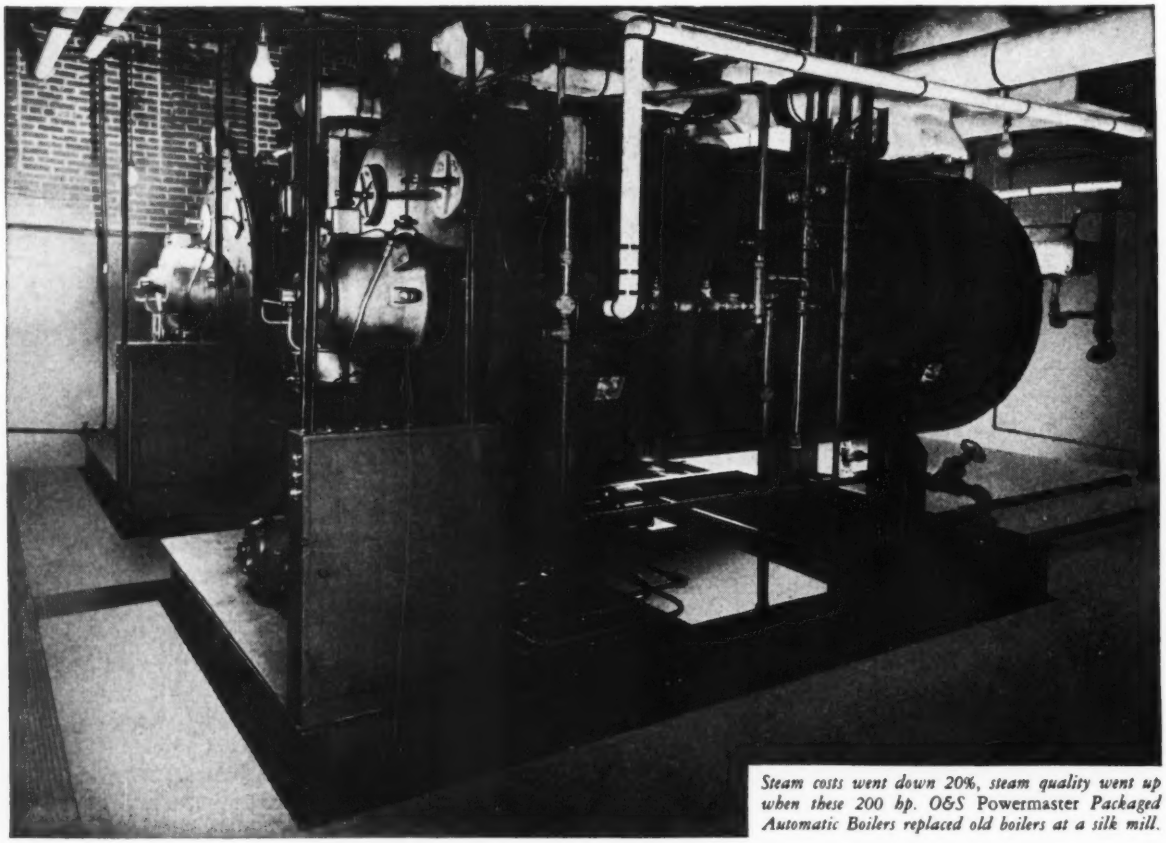
Write today for testing samples.

Nopco Chemical Company,
372 Fuller St., Harrison, N. J.

NOPCO

PLANTS: Harrison, N. J.
Cedartown, Ga. • Richmond, Calif

CHECKED YOUR STEAM COSTS LATELY?



Steam costs went down 20%, steam quality went up when these 200 hp. O&S Powermaster *Packaged Automatic Boilers replaced old boilers at a silk mill.*

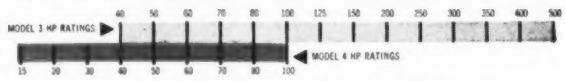
Powermaster® saves in many ways!

In many textile plants, *Powermaster* Packaged Automatic Boilers are supplying steam for processing and heating with outstanding reliability and economy.

Powermaster savings start with simplified installation. No special foundation or costly stack is required. As delivered, space-saving *Powermasters* are completely factory-assembled, fully equipped and wired ready for operation as soon as water, fuel, electrical and flue gas connections are made.

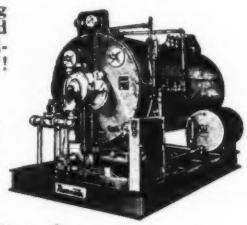
Once installed, a *Powermaster* keeps on saving with these advantages: high fuel economy at all loads, fully automatic operating and safety controls, maintenance-saving accessibility, hospital-clean boiler room, smokeless combustion and long, trouble-free performance. *Powermasters* are entirely designed and built by Orr & Sembower, Inc., and are rigidly fire-tested before shipment.

To meet your specific operating requirements to *your* best advantage, *Powermaster* offers you two models covering a capacity range of 15 to 500 hp. as shown in the chart below. Oil, gas, or combination oil and gas firing is optional with both models in all sizes.



Pressure range: 15 to 250 psi., steam or hot water.

Check your steam costs, and then check the many cost-saving *Powermaster* advantages described and illustrated in our latest bulletins. Send for your copies NOW!



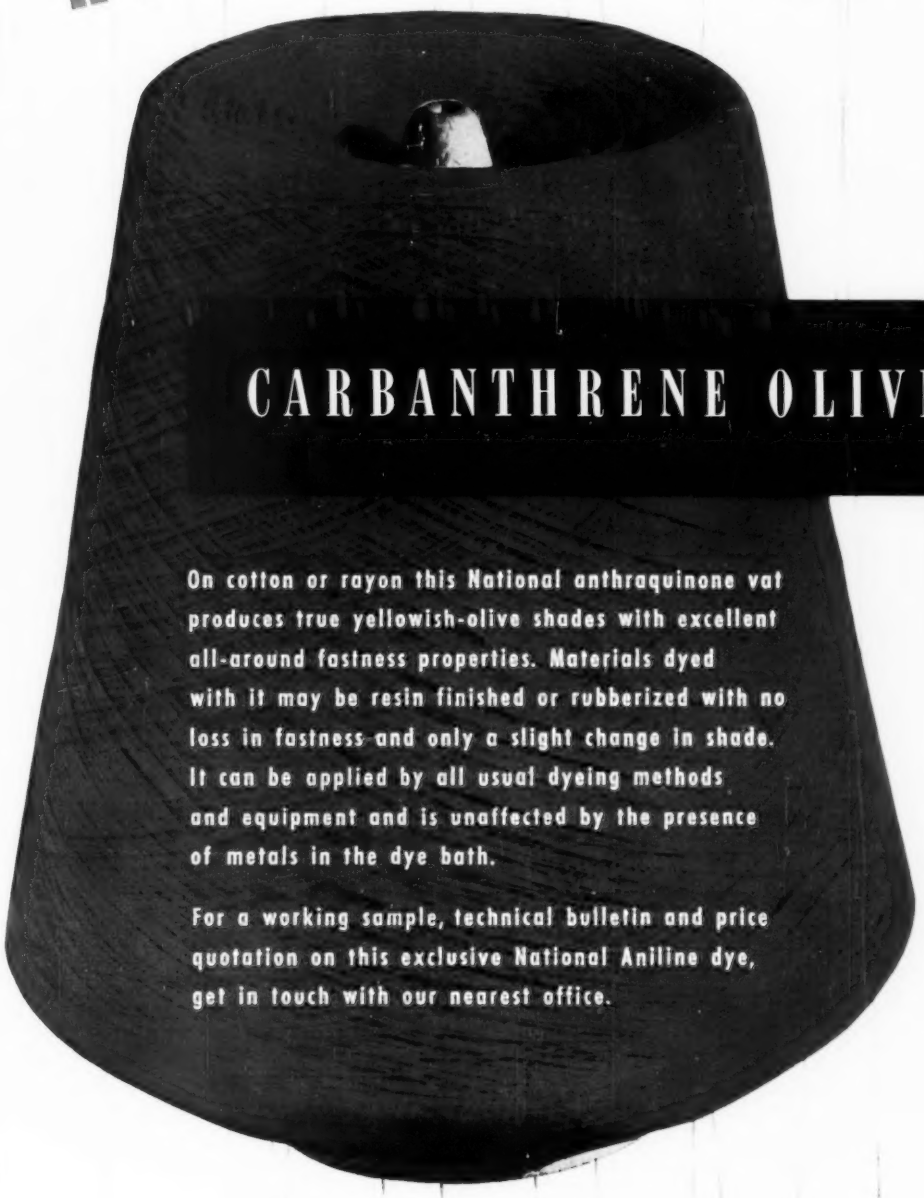
O·S *Powermaster*® PACKAGED AUTOMATIC BOILERS

In sizes to 500 HP; pressures to 250 psi.

ORR & SEMBOWER, INC. Morgantown Road, Reading, Penna.

EXCLUSIVE

with National Aniline



CARBANTHRENE OLIVE G PASTE

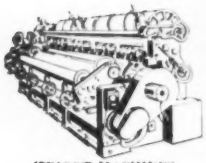
On cotton or rayon this National anthraquinone vat produces true yellowish-olive shades with excellent all-around fastness properties. Materials dyed with it may be resin finished or rubberized with no loss in fastness and only a slight change in shade. It can be applied by all usual dyeing methods and equipment and is unaffected by the presence of metals in the dye bath.

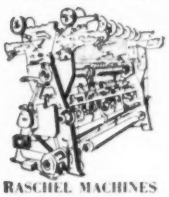
For a working sample, technical bulletin and price quotation on this exclusive National Aniline dye, get in touch with our nearest office.

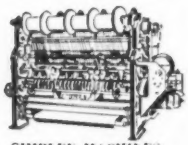
NATIONAL ANILINE DIVISION
ALLIED CHEMICAL & DYE CORPORATION
40 RECTOR STREET, NEW YORK 6, N. Y.

Boston Providence Philadelphia Chicago San Francisco
Portland, Ore. Greensboro Charlotte Richmond Atlanta
Los Angeles Columbus, Ga. New Orleans Chattanooga Toronto

The Reiner Line:

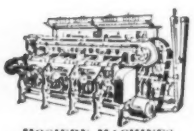

TRICOT MACHINES

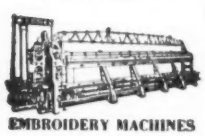

RASCHEL MACHINES


SIMPLEX MACHINES

WARPERS

CREELS

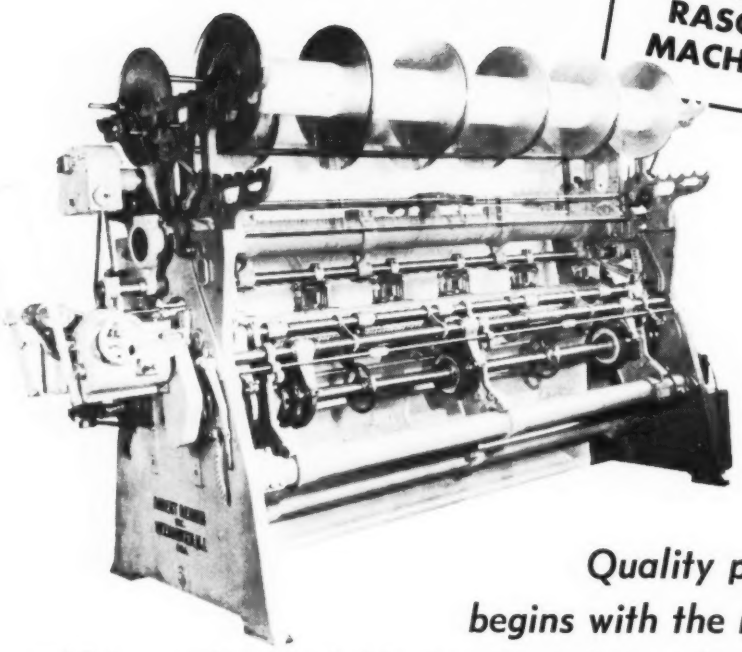

HOSIERY MACHINES


EMBROIDERY MACHINES

Ready spare part service available for all Reiner equipment.

For Unexcelled, Profitable Production--

Versatile, High-Speed
REINER RASCHEL MACHINES



Quality production begins with the machine—

and Reiner machines, backed by the vast experience as the oldest builders of Raschel machines in the United States, produce *highest quality goods at top speeds.*

Whether your requirements are for exquisite lace, tulle fabrics, shoe tops, elastic power nets, draperies, etc., from the finest denier nylon or other synthetics to course gauge metallic yarns—*you can rely on efficient Reiner Raschel units.*

Reiner's Model UR II can be run up to 550 courses per minute on two-bar work and is the fastest machine of its type. It is available in gauges up to 56, with one or two needle bars and up to 8 guide bars. Beams up to 21" in diameter.

SPECIAL FEATURES INCLUDE:
Hardened split cams — Automat — Crepe Attachment — Stitch Comb — Fall or Chopper Plate—Chain Links—Pattern Wheels—Automatic Beam Let-Off—plus many other features.

Write for complete details or for an appointment to see this profitable producer in action.

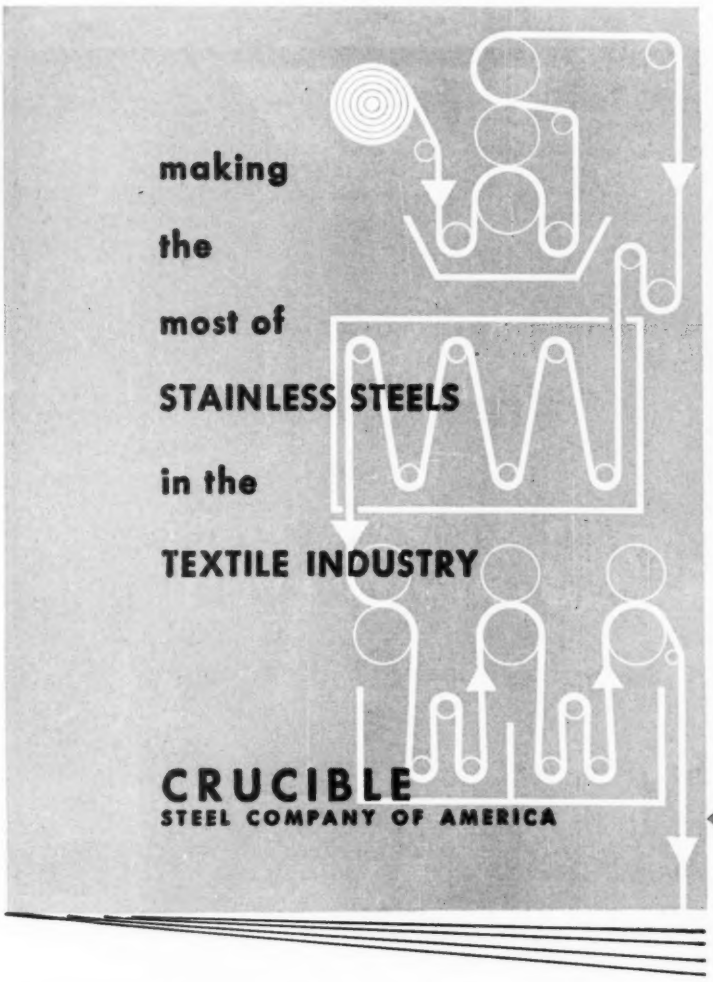
Reiner manufactures a full line of warp knit machines, Tricot, Simplex, Raschel, plus all types of warp preparatory equipment.

1903 50th Anniversary 1953

ROBERT REINER INCORPORATED

10 MINUTES FROM TIMES SQUARE
Take Bus Nos. 61 or 67, from Platform No. 60, Port Authority Bus Terminal, 41st Street and 8th Avenue, New York City. Get off at Pleasant Avenue, Weehawken, New Jersey. From there turn left and walk through the underpass up to Gregory Avenue . . . TELEPHONE: UNION 7-0502, 0503, 0504, and 0505. From New York City call LONGACRE 4-6882.

FOUNDED IN 1903 **550-564 GREGORY AVENUE, WEEHAWKEN, NEW JERSEY**



NEW BOOK SHOWS HOW
from dyehouse to loom

YOU'LL SAVE WITH STAINLESS

Dye vats...mixing tanks...slashers...shuttle tips—the great and growing list of stainless steel applications in textile mills highlights the *progress with profit* made possible by the wide family of stainless alloys.

In this 32-page Crucible booklet you'll find information of importance on every phase of textile processing. It tells you that Crucible Rezistal stainless steels are produced in many grades—to withstand not only attack by textile mill chemicals . . . but also to resist heat and wear. You'll find information of practical importance on equipment design, maintenance . . . and factual data on why stainless stands up so well in textile mill applications.

Get your copy of this valuable booklet now . . . simply fill out the coupon and mail it to Crucible.

Crucible Steel Company of America
Dept. TW, Henry W. Oliver Building
Pittsburgh, Pa.

Send me a copy of "Making the Most of Stainless Steels in the Textile Industry"

Name_____ Title_____

Company_____

Address_____ City_____ State_____

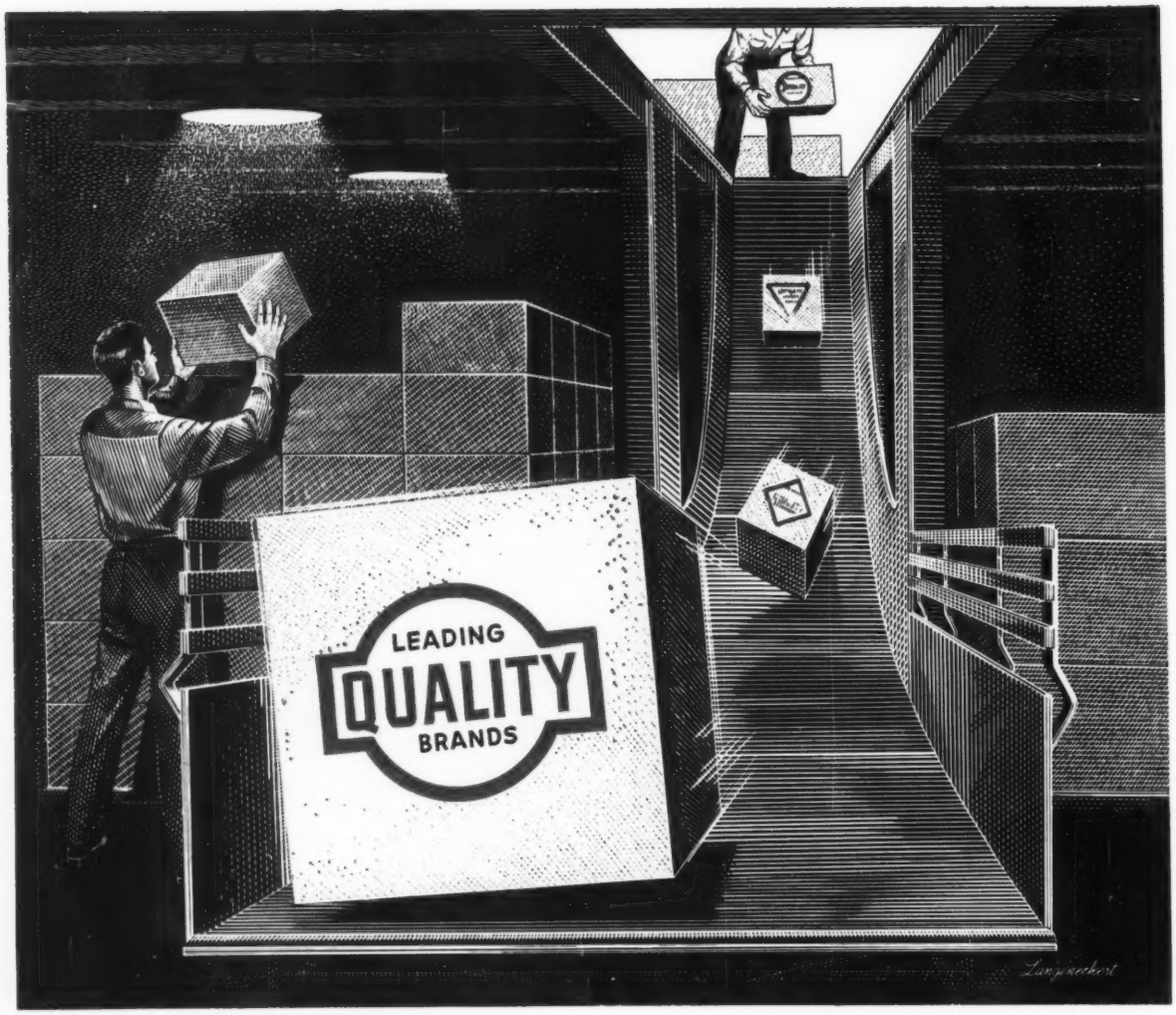
54 years of Fine steelmaking

CRUCIBLE first name in special purpose steels

STAINLESS STEELS

CRUCIBLE STEEL COMPANY OF AMERICA, GENERAL SALES OFFICES, OLIVER BUILDING, PITTSBURGH, PA.

REX HIGH SPEED • TOOL • REZISTAL STAINLESS • MAX-EL • ALLOY • SPECIAL PURPOSE STEELS



Gaylord Boxes Insure Happy Landings for Your Products

What happens to your products when they "hit the road?" Are they treated as carefully as you treat them back home?

Undoubtedly NOT! They're bounced . . . thrown . . . jostled . . . bumped. Not purposely, of course—but it does happen.

For minimum damage, many leading manufacturers are careful to specify Gaylord Boxes. This is a natural compliment to high quality, superior materials, and special protective abilities.

Make a wise investment in cost-cutting product protection. Contact your nearby Gaylord Sales Office.

GAYLORD CONTAINER CORPORATION

SALES OFFICES

Gaylord Boxes

General Offices: SAINT LOUIS, MO.

COAST-TO-COAST

For more information, write direct or use Reader Service post card.

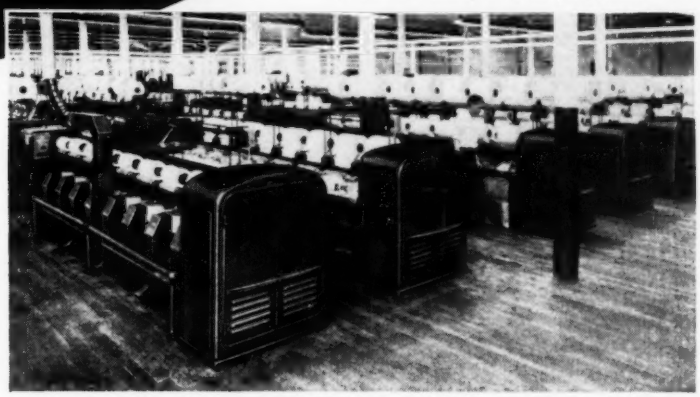
Attention all comber users . . .

for **Highest Production**

for **Unsurpassed Quality**

with **Lowest Cost per Pound**

A large installation of Whitin Model J Combers in operation at Wamsutta Mills, New Bedford, Mass.



You must have Whitin Model J Combers . . .

The most profitable combers in the world for you!

In five short years — in the leading combed yarn mills, not only in the United States but all over the world, Model J Combers have gained widespread acceptance — they now supply more than 2,500,000 spindles. Their performance has earned for them the enviable reputation of being the "finest combers in the world."

- **They operate at extremely high constant speed — 150 nips per minute — producing up to 35 pounds per hour, with a minimum of vibration.**
- **They deliver unsurpassed sliver quality with high nep removal and extremely accurate waste control.**
- **They are structurally very simple, having fewer parts than any competitive comber — a factor which results in extremely low maintenance cost and ease of operation.**
- **Settings are held for unusually long periods of time. Adjustments are simple, easy and quickly made.**
- **These and many other outstanding features combine to give you the most profitable combing performance in the world.**

Write today for complete details to Dept. G Whitin Machine Works, Whitinsville, Mass.

Whitin MACHINE WORKS

WHITINSVILLE, MASSACHUSETTS

CHARLOTTE, N. C. • ATLANTA, GA. • SPARTANBURG, S. C. • DEXTER, ME.

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60
61
62
63
64
65
66
67
68
69
70
71
72
73
74
75
76
77
78
79
Bingham

They all picked FOAMGLAS

Yes, in this "city" of 100 buildings and plants *they all picked FOAMGLAS* to insulate either their roofs, walls, floors, cold rooms, piping or equipment!

Why are there so many prominent users of FOAMGLAS? Why are so many using it again and again? Because they know it is the only insulation with a sealed glass cell structure that stays dry, assuring constant insulating efficiency. They know that only FOAMGLAS can perform so well because no other insulation is so waterproof, fireproof and strong.

If you'd like to know how FOAMGLAS can benefit *you*, write for new booklet AH-124.

PITTSBURGH CORNING CORPORATION

One Gateway Center • Pittsburgh 22, Pa.

1. RCA Building, New York, N.Y.
2. Esso Building, New York, N.Y.
3. 100 Park Avenue, New York, N.Y.
4. United Nations Secretariat, New York, N.Y.
5. 525 William Penn Place (Mellon-U.S. Steel Bldg.), Pittsburgh, Pa.
6. Gateway Center Buildings, Pittsburgh, Pa.
7. Alcoa Building, Pittsburgh, Pa.
8. Lever Brothers Co. (Lever House), New York, N.Y.
9. Manufacturers Life Insurance Co., Toronto, Ont.
10. Hotel Statler, Los Angeles, Cal.
11. Massachusetts Mutual Life Insurance Co., Springfield, Mass.
12. Springs Cotton Mills, Fort Mill, S.C.
13. U.S. Capitol, Washington, D.C.
14. National Archives Building, Washington, D.C.
15. Henry Ford Hospital, Detroit, Mich.
16. Esso Standard Oil Co., Philadelphia, Pa.
17. Chicago State Tuberculosis Sanitarium, Chicago, Ill.
18. Hospital for Sick Children, Toronto, Ont.
19. Allstate Insurance Co., Skokie, Ill.
20. Lederle Laboratories, Pearl River, N.Y.
21. The Armour Laboratories, Bradley, Ill.
22. Harvard University (Dillon Field House), Cambridge, Mass.
23. University of Michigan (Cooley Research Bldg.), Ann Arbor, Mich.
24. Railway Express Agency, Toledo, Ohio
25. Swift & Co., Kansas City, Mo.
26. Louisville Courier-Journal, Louisville, Ky.
27. Babson Institute of Bus. Adm. (Swimming Pool Bldg.), Wellesley, Mass.
28. Buffalo State Hospital, Buffalo, N.Y.
29. Star & Tribune, Minneapolis, Minn.
30. The Mead Corp., Kingsport, Tenn.
31. Duplan Corp., Winston-Salem, N.C.
32. Marathon Corp., Oswego, N.Y.
33. Rochester Institute of Technology, Rochester, N.Y.
34. Anaconda Aluminum Co., Columbia Falls, Mont.
35. St. Regis Paper Co., Tacoma, Wash.
36. Beaunit Mills, Inc., Coosa Pines, Ala.
37. The Kendall Mills, Walpole, Mass.
38. Northwestern Bell Telephone Co., Duluth, Minn.
39. American Tobacco Co., Durham, N.C.
40. Radio Corporation of America, Camden, N.J.
41. William Skinner & Sons, Holyoke, Mass.
42. The Maytag Co., Newton, Iowa
43. Westinghouse Electric Corp., East Pittsburgh, Pa.
44. Jaclyn Hosiery Mills, Inc., Camden, S.C.
45. Goodyear Tire & Rubber Co., Cedartown, Ga.
46. S. C. Johnson & Son, Racine, Wis.
47. Western Electric Co., Allentown, Pa.
48. R. J. Reynolds Tobacco Co., Winston-Salem, N.C.
49. Jos. Schlitz Brewing Co., Milwaukee, Wis.
50. Brown Shoe Co., Clayton, Mo.
51. The Crowell-Collier Publishing Co., Springfield, Ohio
52. Eastman Kodak Co., Dallas, Tex.
53. National Dairy Products Co., Inc., Milwaukee, Wis.
54. The Borden Co., Lewisburg, Tenn.
55. Detroit Edison Co., Detroit, Mich.
56. National Biscuit Co., Pittsburgh, Pa.
57. International Business Machines Corp., Washington, D.C.
58. Western Electric Co., Indianapolis, Ind.
59. United Biscuit Co., Melrose Park, Ill.
60. Wilson & Co., Kansas City, Mo.
61. General Mills, Inc., Minneapolis, Minn.
62. Pabst Brewing Co., Los Angeles, Cal.
63. Neches Butane Products Co., Port Neches, Tex.
64. The Chemstrand Corp., Decatur, Ala.
65. Minnesota Mining & Mfg. Co., Hastings, Minn.
66. The General Tire & Rubber Co., Baytown, Tex.
67. Gulf Oil Corp., Port Arthur, Tex.
68. California Refining Div. of The California Oil Co., Perth Amboy, N.J.
69. The Chemstrand Corp., Pensacola, Fla.
70. Shell Chemical Corp., Ventura, Cal.
71. Consolidated Edison Co., Astoria, N.Y.
72. B. F. Goodrich Chemical Co., Calvert City, Ky.
73. Pure Oil Co., Detroit, Mich.
74. Mathieson Chemical Corp., Morgantown, W.Va.
75. General Electric Co. (Knolls Atomic Power Laboratory), Schenectady, N.Y.
76. Pennsylvania Salt Mfg. Co., Calvert City, Ky.
77. Canadian Chemical & Cellulose Co., Ltd., Edmonton, Alta.
78. Springs Cotton Mills, Lancaster, S.C.
79. Canadian Chemical & Cellulose Co., Ltd., Prince Rupert, B.C.
80. The B. F. Goodrich Co., Akron, Ohio
81. Miller Brewing Co., Milwaukee, Wis.
82. Merck & Co., Inc., Rahway, N.J.
83. The Genesee Brewing Co., Inc., Rochester, N.Y.
84. Falstaff Brewing Co., St. Louis, Mo.
85. J. L. Hudson Co. (Northland Shopping Center), Detroit, Mich.
86. Evergreen Plaza Shopping Center, Chicago, Ill.
87. Sears, Roebuck & Co., Winston-Salem, N.C.
88. Gerber Products Co., Rochester, N.Y.
89. The Carnation Co., Oconomowoc, Wis.
90. P. Ballantine & Sons, Newark, N.J.
91. Philadelphia International Airport (Terminal Building), Philadelphia, Pa.
92. Shell Oil Co., Norco, La.
93. S.S. United States
94. Rohm & Haas Co., Houston, Tex.
95. National Petro-Chemicals Corp., Tuscola, Ill.
96. Monsanto Chemical Co., Everett, Mass.
97. Polymer Corp., Ltd., Sarnia, Ont.
98. Standard Oil of California, Tanker, S.S. Fort Clatsop
99. American Cyanamid Co., Warners Works, Warners, N.J.
100. Bakelite Co., Bound Brook, N.J.

FOAMGLAS®

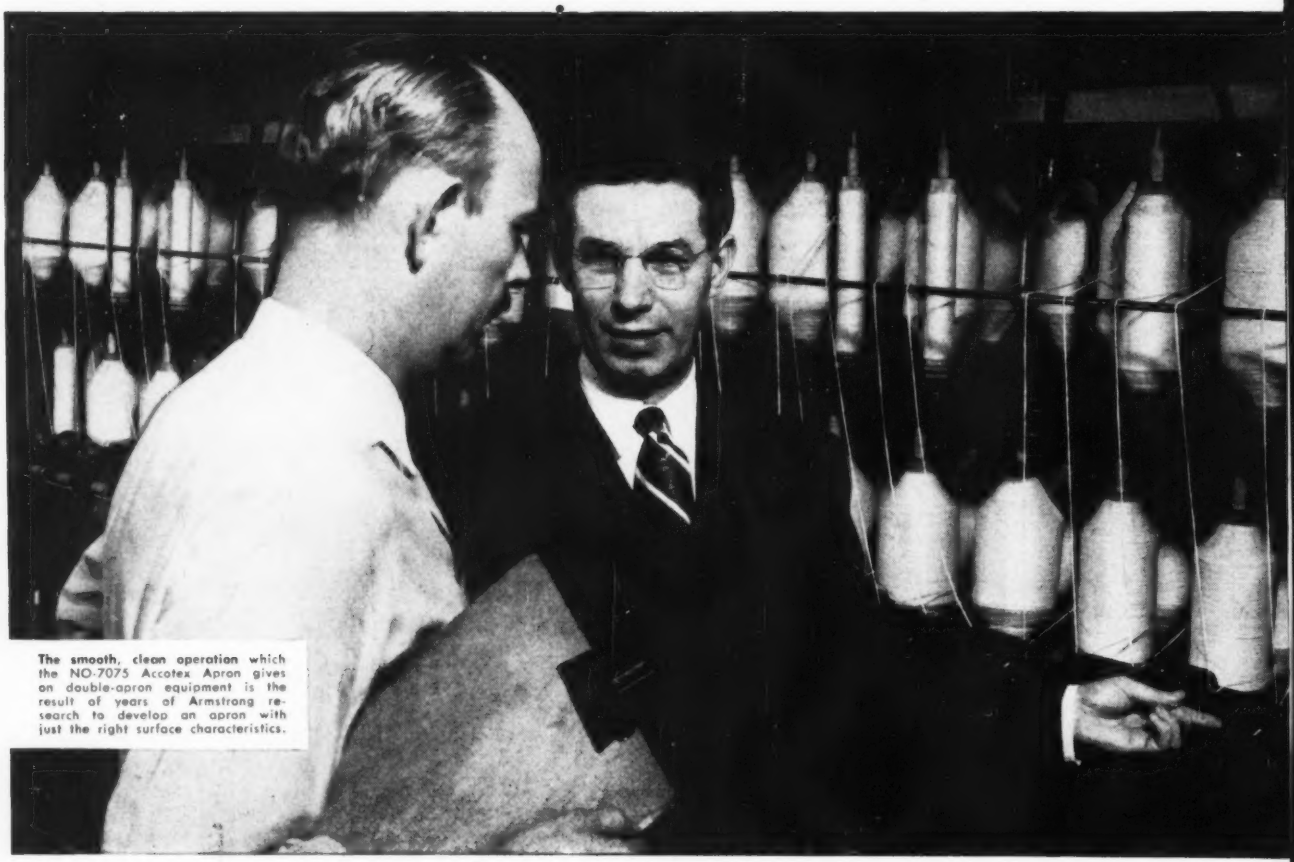
the cellular, stay-dry insulation

PITTSBURGH PC CORNING®

Pittsburgh Corning also makes PC Glass Blocks

Get the most out of your long-draft equipment . . .

USE THE APRON SPECIALLY DESIGNED FOR



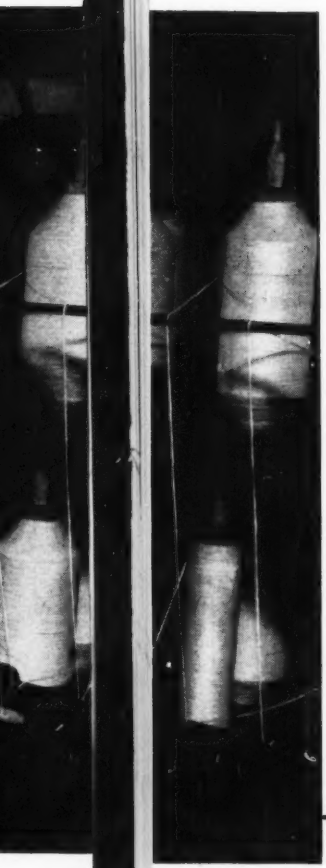
The smooth, clean operation which the NO-7075 Accotex Apron gives on double-apron equipment is the result of years of Armstrong research to develop an apron with just the right surface characteristics.

NO SLIPPAGE *HERE.* Black outer face provides the *right* friction to keep top apron running smoothly and maintain good yarn control.

RUNS CLEANER *HERE.* White inner face won't attract loose fibers, helps prevent formation of hard-to-clean deposits inside the apron.

RUNS SMOOTHER *HERE.* White inner surface has sufficient friction to permit steady, trouble-free transfer of power from driving roll to apron—yet it is smooth enough to slip over the pins without buckling.

TROUBLE-FREE DOUBLE-APRON SPINNING— ARMSTRONG NO-7075 ACCOTEX APRON



On long-draft double-apron equipment, the inner and outer apron surfaces do *different* jobs. The outer layer has to have the right friction to drive the top apron without slipping, while the inner layer must permit smooth, sure transfer of power from drive roll to apron—yet prevent buckling at the pins.

This calls for an apron with almost opposite characteristics on each surface. To meet these needs, Armstrong developed an entirely new apron made of *two* synthetic rubber compounds—the NO-7075 Accotex® Apron. The high quality of the rubber used in this apron makes a big difference in spinning results!

Here's why more and more mills are finding that this black-and-white Accotex Apron gives the best possible yarn control on double-apron frames:

THE WHITE INSIDE SURFACE OF NO-7075 has *just* enough friction to assure even transfer of power from drive roll to apron. Yet it is smooth enough to slip over the pin without jamming or buckling.

This white inner surface runs exceptionally clean, too. A special electrolyte added to the white compound tends to repel loose fibers—helps prevent formation of hard-to-clean deposits inside the apron.

NO-7075's BLACK OUTER SURFACE is compounded so that it has much more friction than the inner surface in order to keep the top apron running smoothly without slipping. This black compound also has long flex life and high resistance to abrasion.

Ask your Armstrong man to set up a test frame of NO-7075 Aprons or write Armstrong Cork Company, Industrial Division, 6512 Dauphin Street, Lancaster, Pennsylvania.

FOR SINGLE-APRON SPINNING, use Armstrong super-flexible NO-750 Accotex Apron. This apron insures the smooth drafting action needed for strong, uniform yarn.

Armstrong ACCOTEX APRONS

How LEESONA *Profit Factor Studies are*

helping textile mills to make big savings!

Many firms cashing in on hidden profit potentials revealed by expert analyses

Leesona Profit Factor Studies constitute a service that is valuable and exceptional in the textile industry.

This service is offered only by the Universal Winding Company and is entirely without obligation. It consists of sending expert analysts into a mill, to study twisting and winding operations thoroughly — including related operations. The Profit Factor Study Report we submit assists management in determining not only their twisting and winding machinery requirements, but also how and where the greatest savings may be made.

Leesona Profit Factor Studies have already shown high potential savings to many mills. Equipment installed as a result of our analysts' recommendations has paid for itself in as short a time as a year.

Supplementing these Studies, Universal offers the other half of the Leesona Double-Profit Service — the Leesona Pay-As-You-Profit Plans. These provide for either long-term purchase or long-term lease of modern, cost-cutting twisting and winding machinery — immediately, simply and economically.

Get the Story

Leesona Profit Factor Studies and Leesona Pay-As-You-Profit Plans are available separately. A new folder gives you details on how you may use any one of them to advantage — or how you can *profit two ways* by combining them in the Leesona Double-Profit Service. Send for your copy today.

UNIVERSAL WINDING COMPANY

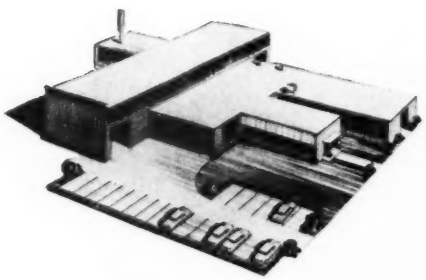
P. O. BOX 1605, PROVIDENCE 1, R. I.

Sales Offices: Boston • Philadelphia • Utica • Charlotte • Atlanta • Los Angeles

Winding and Twisting Machinery for Natural and Synthetic Yarns

it took 69 years to lay this foundation

Architect's drawing of Stowe-Woodward's new Griffin, Georgia plant scheduled for operation January 1955.



There's a *lot more* than construction materials in the foundation of Stowe-Woodward's new Griffin, Georgia plant. For this new foundation is built upon the broad base of confidence . . . the confidence of America's paper and textile manufacturers in Stowe-Woodward's.

— "Rubber Rolls with a Reputation" —

Following the opening last June of the Neenah, Wisconsin rubber roll factory, and strategically located for the fast growing paper and textile industries of the South, this new Griffin plant marks the second major step this year in an expansion program designed to bring Stowe-Woodward service closer to the industries it serves.

Stowe-Woodward's new Griffin factory will be the world's most modern rubber roll manufacturing plant . . . painstakingly designed for the manufacture of rubber rolls for your most difficult and exacting requirements.

STOWE-WOODWARD, Inc.

Craftsmen in rubber rolls

NEENAH, WISCONSIN — NEWTON 64, MASSACHUSETTS — GRIFFIN, GEORGIA

 For more information, write direct or use Reader Service post card.

Corn in a Safe Deposit Box?

In a sense, yes. We take every imaginable precaution to assure you the proper corn starch or dextrine for the proper use. That's why for a quarter of a century Stein, Hall & Co., Inc. and American Maize-Products Company have been working together as a single company in providing the world's finest corn starch and dextrine products and service.

When you buy from Stein Hall, you buy American Maize. The resources of both companies combine to provide a highly specialized corn starch and dextrine service in the form of research, manufacturing facility, technical service, and technical sales.

This unique union of Stein Hall and American Maize means rigid control and inspection, uniform high quality standards, ample supply at all times, and speedy delivery. Call Stein Hall for quotations, samples or a visit from one of our technical salesmen who will aid you in solving your starch problems.

STEIN SH HALL
285 Madison Avenue New York 17, New York

Sales and Service Offices in principal cities

AMERICAN MAIZE-PRODUCTS CO.
250 Park Avenue, New York, N. Y.

When you buy from Stein Hall, you buy American Maize.

Goldblatt's of Chicago specifies VISQUEEN *"C" for packaging "Gold Coast" and "Ironsides" Domestic items.*

Mr. Harry S. Weiss, Domestic buyer, says, "We chose VISQUEEN 'C' because it gives our merchandise maximum protection and brand identification—practically eliminates mark-downs due to soilage. The Traver Corporation and Milprint, leading converters of VISQUEEN film, supply the Goldblatt packages."

no other film protects and promotes textiles as well as

VISQUEEN® film

Converters of VISQUEEN film can help you package better. For names, mail the coupon.

VisQueen® film . . . a product of

THE VISKING CORPORATION

World's largest producers of polyethylene sheeting and tubing

Plastics Division, Terre Haute, Indiana
In Canada: VISKING Limited, Lindsay, Ontario
In England: British VISQUEEN Limited, London

Important: VISQUEEN film is all polyethylene, but not all polyethylene is VISQUEEN. VISQUEEN film is produced by process of U. S. Patents No. 2461975 and 2632206. Only VISQUEEN has the benefit of research and technical experience of The VISKING Corporation, pioneers in the development of pure polyethylene film.

tell me more!

The VISKING Corporation, Box TW12-1410, Plastics Division, Terre Haute, Indiana

Send me names of converters of VISQUEEN film serving my area.

Name_____ Company _____

Address_____ City_____ Zone____ State_____

 For more information, write direct or use Reader Service post card.

Still on Top!

with the many exclusive performance features that have made

ECLIPSE BOBBIN HOLDERS

THE FAVORITE!

The many exclusive features built into the Eclipse Bobbin Holder have made it the favorite of many leading textile organizations. They have found in actual operation that the Eclipse Bobbin Holder is outstanding in every way, and that the Eclipse reputation for basic quality and goodness is well deserved. If you are interested in modernizing your present plant equipment, you will surely want the finest—and the finest means Eclipse. Investigate today by writing or calling the Eclipse Machine Company direct.

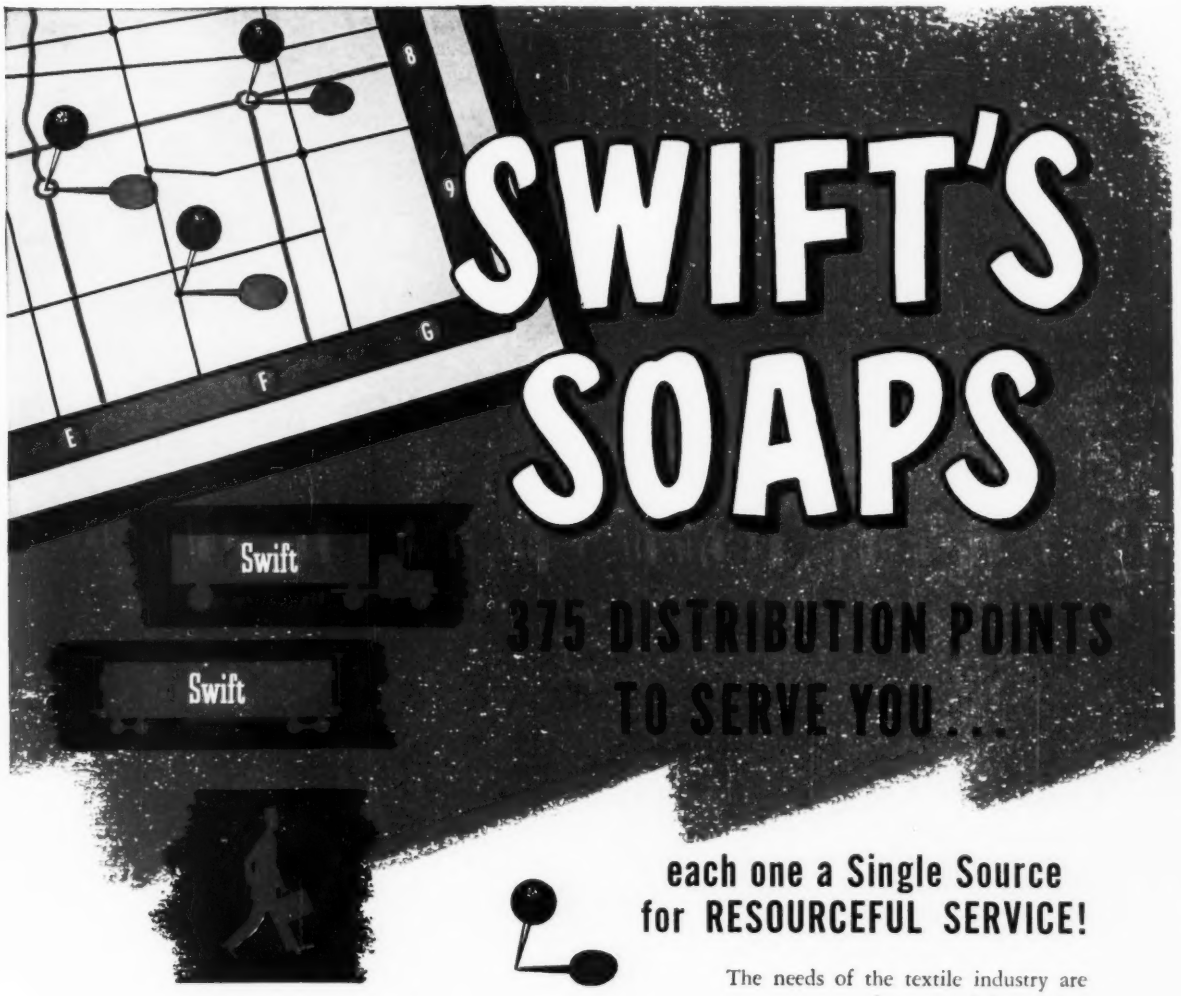
These Features Mean Eclipse Superiority

1. Completely replaces wooden skewers.
2. Ball bearings minimize friction, resulting in uniform quality of roving.
3. Permits less twist. Tests indicate yarn of more even texture.
4. Creel boards easily cleaned. Overhead suspension leaves open creels. Blowers more effective.
5. Better spinning of spun rayon.
6. Easier creeling; less physical effort and fewer motions required.
7. Improved brake attachment prevents overrun and backlash.
8. Now cadmium plated and stainless steel balls more rust resistant.
9. Time-tested product—holders in operation for over ten years.
10. Easy to install; practically no upkeep.

Export Sales: Bendix International Division, 205 East 42nd St., N. Y. 17, N. Y.

ECLIPSE MACHINE DIVISION of Bendix AVIATION CORPORATION

ELMIRA, NEW YORK



each one a Single Source for RESOURCEFUL SERVICE!

The needs of the textile industry are *best* served *by* service. That's why your Swift's Soap needs are attended to through a dependable network of 375 sales and distribution points located throughout the U. S. and Canada. Through constant, on-the-spot service to the varied needs of our many customers, Swift & Company has built a background of experience with *your* soap problems that draws upon 40 years of supplying to the textile industry. Backed by *practical* research, occasioned by day to day dyeing, fulling and scouring needs, your Swift's man is resourceful, dependable . . . a *single* nearby source for a versatile line of soap and detergent products for your every requirement. The list at left represents but a few of the many textile soap products available on immediate delivery — look it over, write for details and remember . . .

ONE TRIAL IS BETTER THAN A THOUSAND CLAIMS

- Vertex Flakes
- 557 Flakes
- White Ribbon Chips
- Wool Flakes
- Flotewite Flakes
- Solar Neutral Synthetic
- T-25 Soap Flakes
- Gold Medal Flakes
- Solar Liquid Synthetic (Amine Condensate)

Call Swift for SOAPS

Another of Swift's Products for Industry

SWIFT & COMPANY
Soap Department
U. S. Yards • Chicago 9, Illinois

 For more information, write direct or use Reader Service post card.

"Lubricating Tenter Machines was a Tough Problem!"...

A large Georgia manufacturer of print cloth and gauze went to considerable expense to install a tenter machine in his mill. Knowing of the lubricating problems associated with units of this kind, he decided to call in Sinclair Lubrication Engineer, Lewis Kay.

Mr. Kay reports, "Upon checking the machine, I noted the chain slides would be working under conditions of extreme heat and moisture. Based on my experience, I reasoned that grease would not do a satisfactory job – so the suggestion was made to install the necessary fittings to use *oil*."

Mr. Kay continues, "I recommended Sinclair RUBILENE® H.D. because this oil is compounded to hold sludge and carbon in suspension while resisting the effects of high temperature and moisture."

"The results were highly satisfactory," says Mr. Kay. "RUBILENE has prevented any necessity for replacement of expensive chain links – there is no problem with sticking links and power drag is at a minimum."

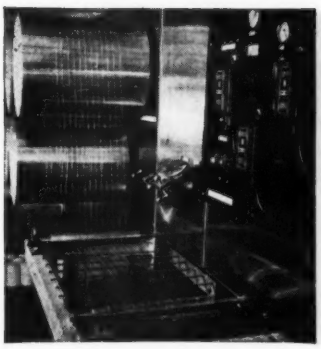
Why not give a Sinclair Lubrication Engineer the chance to help solve your lubrication problem. *There's no obligation.* Contact your local Sinclair office or write Sinclair Refining Company, 600 Fifth Avenue, New York 20, N. Y.

SINCLAIR LUBRICANTS

Research and experience... yours for the asking with

Monsanto's 3-point service in warp sizing

1. ***Monsanto's comprehensive line of warp sizes*** **includes Stymer® LF for loom-finished acetates, such as this taffeta which won't water-spot; Stymer R for newest synthetic fibers; and Stymer S for rayon and synthetics.**



2. ***Unique development and evaluation facilities,*** **such as this Monsanto-planned slasher, reproduce modern mill conditions in the laboratory. They permit testing of synthetic resins as warp sizes under realistic circumstances.**

3. ***Monsanto's experienced personnel,*** **both in the laboratory and in the field, bring years of practical experience to your problems. They have pioneered many basic developments in the textile industry.**

You're invited to take full advantage of Monsanto's 3-Point Service, combining the latest in warp size technology with years of field experience.

Monsanto's Service is based on a comprehensive line of warp sizes, developed and tested under mill conditions by the use of such unique equipment as the slasher shown here. It includes the advice of trained Monsanto personnel, both in the field and in the laboratory.

For complete information on Monsanto's line of warp sizes ... and the help of our experienced technical and sales people ... just call, wire or write
MONSANTO CHEMICAL COMPANY
Springfield 2, Mass.

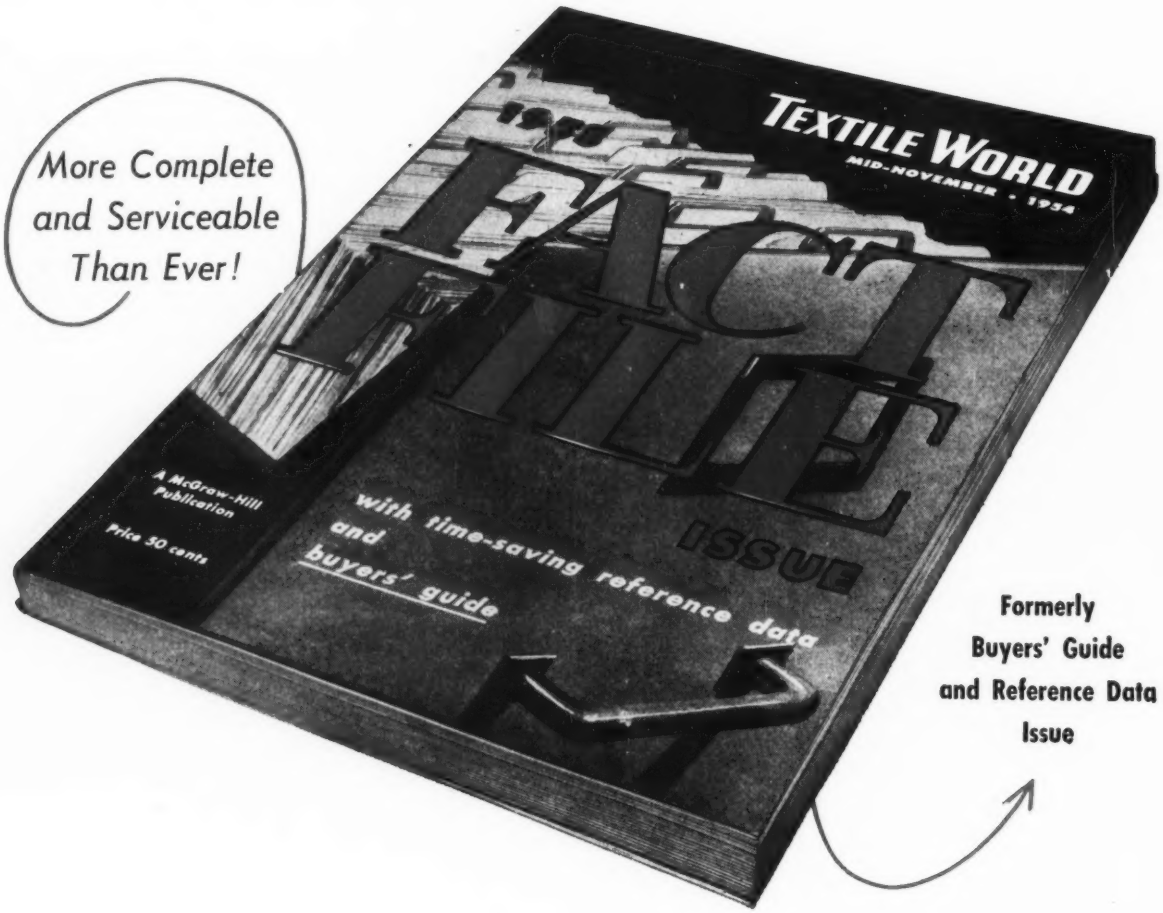
*Stymer: Reg. U. S. Pat. Off.

MONSANTO®

SERVING INDUSTRY... WHICH SERVES MANKIND

A COVER TO REMEMBER!

TEXTILE WORLD'S Mid-November Issue . . .



THE MAILMAN has delivered the new FACT FILE issue to all subscribers in mid-November of this year. Known to you last year as the Buyers' Guide and Reference Data Issue, the newly designed, improved, and handier FACT FILE issue will be easily distinguishable from regular issues of TEXTILE WORLD.

Between the new covers, you will find an accurate and complete Buyers' Guide of product listings and a Reference Data section of short-cut tables and other units of useful technical and engineering data.

Remember the name—FACT FILE issue—keep it handy in your desk for daily use!

TEXTILE WORLD
FIRST in Circulation
FIRST in Mill-Management Subscribers
FIRST in Readership
FIRST in Advertising Volume

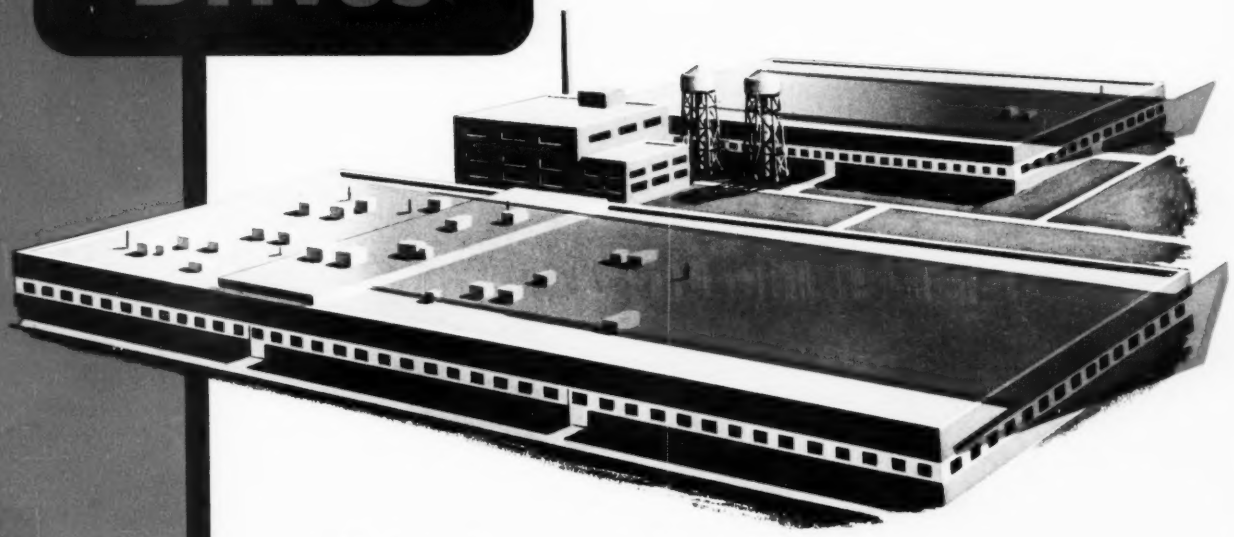
ABP ABC

TEXTILE WORLD'S
FACT FILE
ISSUE

A McGraw-Hill Publication, 330 W. 42nd St., New York 36, N. Y.

ALLIS-CHALMERS Textile Drives

ALLIS-CHALMERS
Textile Drives



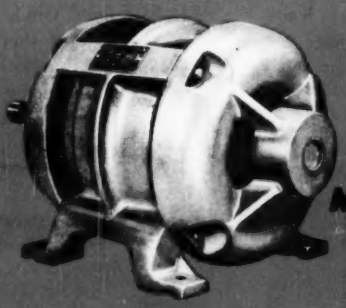
All through the plant

get

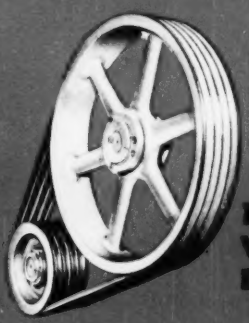
- More production
- Higher product quality
- Lower maintenance costs

With the ALLIS-CHALMERS POWER PACKAGE

Control



Motor



Texrope V-Belt Drive

Everything from Power Line to Driven Shaft

A-4485

A-C ALLIS-CHALMERS

ALLIS-CHALMERS

ALLIS-CHALMERS Textile Drives

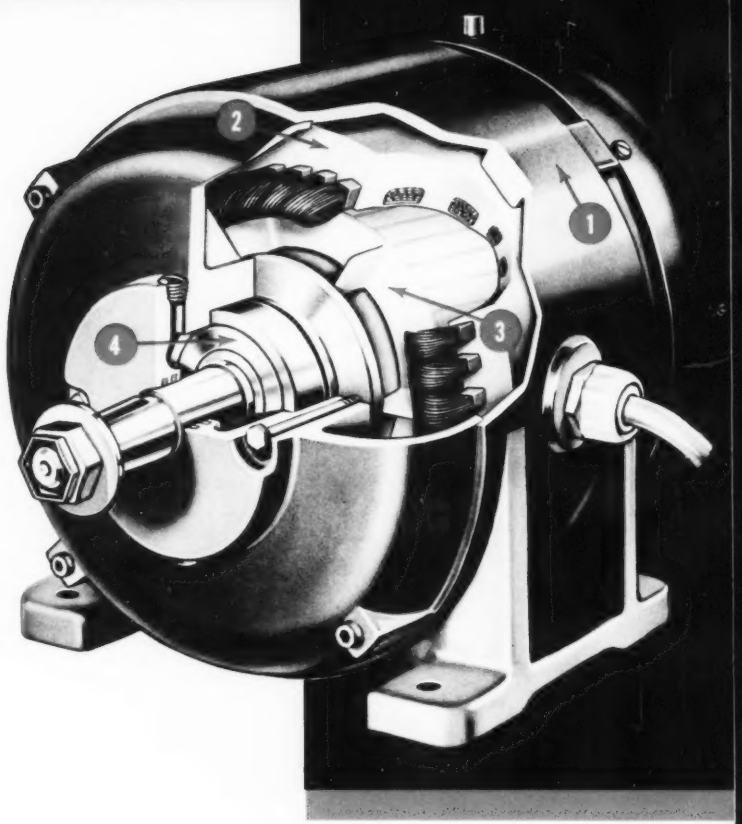
ALLIS-CHALMERS Textile Drives

WEAVING

New Design Licks Oscillating Load Problems in Looms at Modern High Speeds

THIS NEW ALLIS-CHALMERS LOOM MOTOR DESIGN is the result of thorough research into the true nature of loom motor loads. Under modern high speed operating conditions, which sometimes run as high as 200 picks per minute, rapidly oscillating loads create special electrical and mechanical problems.

This new Allis-Chalmers motor was designed with oversize rotor, stator and bearings to handle this added load. Rotor diameter is as great as possible to provide maximum flywheel effect (Wk^2) while slip has been regulated to produce minimum speed variation. Over a year and a half of field testing of hundreds of motors has proved the great operating economies possible with this new motor.



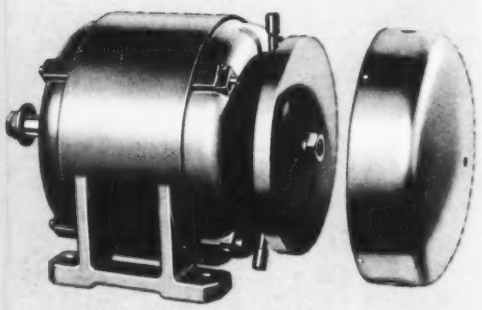
DESIGN FEATURES

1 Motor is totally enclosed, non-ventilated . . . excludes all lint from interior. Both the yoke and bearing housings are cast iron.

2 Stator is double insulated and extra large with heavy construction to meet stress of rapid load oscillation. Stator laminations are welded across back to provide rigid core.

3 Die cast rotor is of largest practical diameter. Maximum inertia in rotor plus proper design of slip makes motor operate at stable speed under pulsating load.

4 Oversize ball bearings of double-shielded type (see above)...allows controlled migration of grease in and out of bearing . . . protects against overgreasing, the greatest cause of bearing trouble. (Optional waste-packed sleeve bearing construction at lower right.)

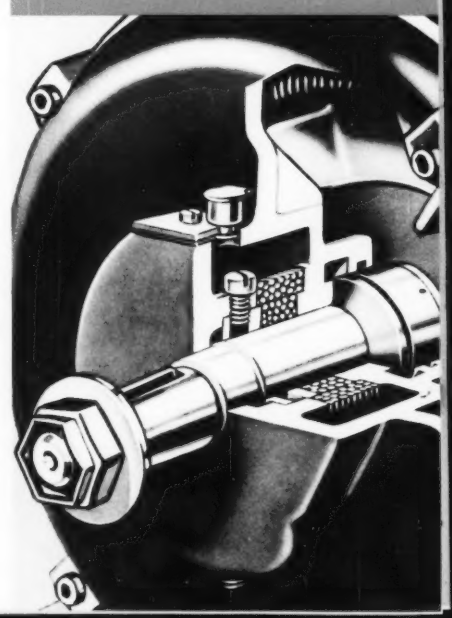


Flywheels Available for Added Inertia (Wk^2)

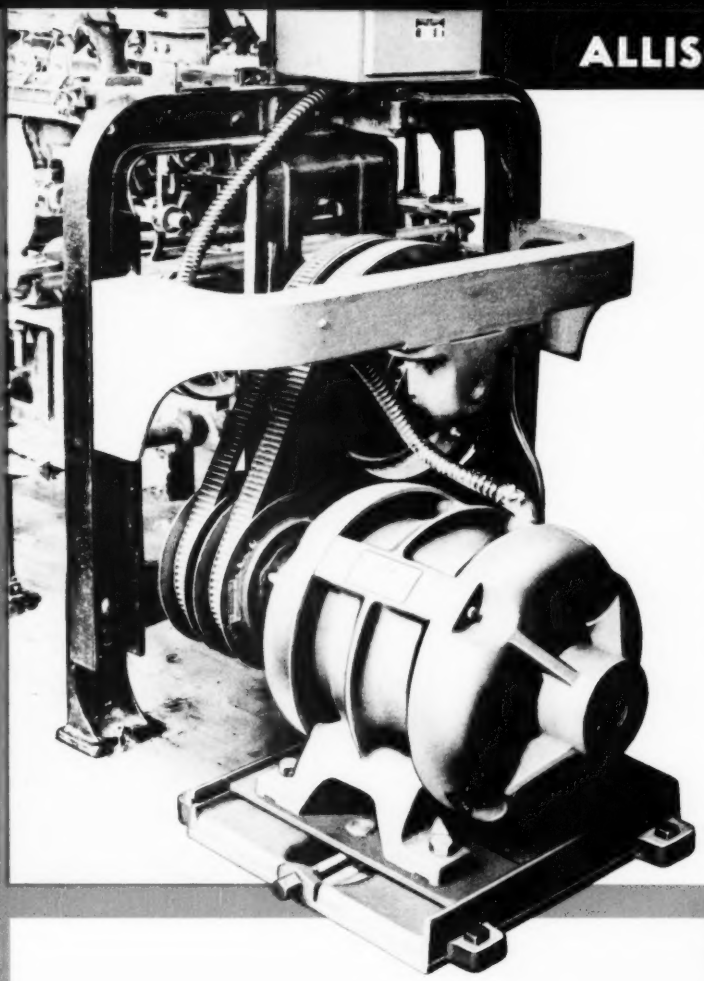
Allis-Chalmers loom motors are available in three inertia categories: more than 1 lb-ft², more than 2 lb-ft², and more than 3 lb-ft². Flywheel models have the same flywheel cover and same dimensions.

Optional . . . Waste-Packed Sleeve Bearing

Wool waste saturated with oil is used to lubricate shaft and bronze sleeve. Slot in upper side of sleeve permits waste to come in direct contact with load-carrying area of shaft. Excess oil drains to outside to prevent damage to windings.



ALLIS-CHALMERS Textile Drives



ROVING and SPINNING

Get the Motor That Dirt and Lint Can't Stop

There's no motor problem caused by lint-laden atmospheres that can't be solved using *Quick-Clean* textile motors.

Powerful fans sweep lint and dirt through wide open air passages — and right out of the motor.

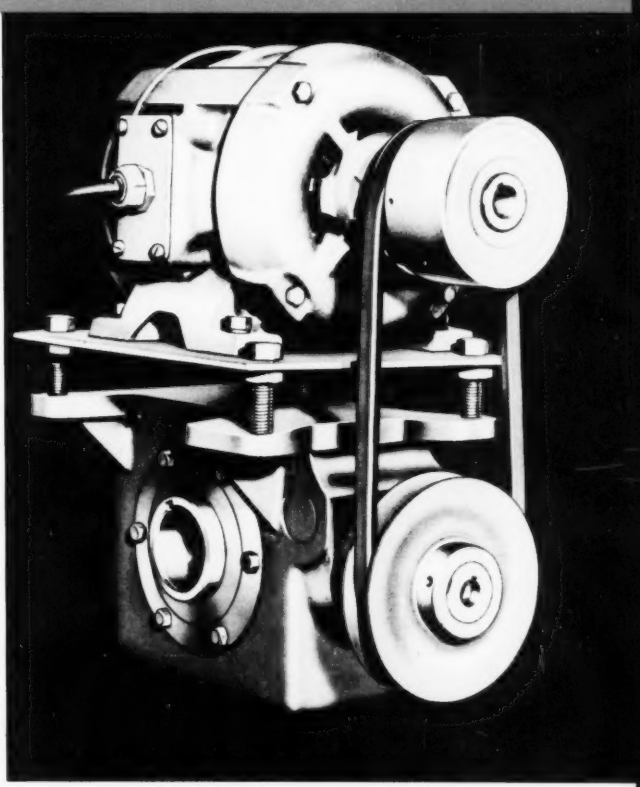
Sealed and pre-lubricated double width, single row ball bearings are an important feature of the *Quick-Clean* motor. They will operate for long periods without attention of any kind. When motor is dismantled they may then be cleaned and repacked. Inside face of bearing is protected from lint by a collar pressed onto motor shaft.

Same basic design is available with special acceleration characteristics for roving frame drives. Motor takes almost three times as long to reach full speed as standard motor. No special control required.

In addition, Allis-Chalmers can supply control and *Texrope* V-belt drive to meet complete machine drive needs.

CARDING

Quick-Clean motor used to drive gear reducer through *Texrope* V-belt drive and mercury clutch. Sheave is adjustable to permit cylinder speeds between 157 and 189 rpm.



Control Cards Individually... Make Card Rooms Cleaner and Safer!

INDIVIDUAL CARD DRIVES solve problems in cleanliness, safety and lighting created by overhead line shafting. With these drives, there is no hard-to-reach overhead structure to clean . . . no dirt and grease to drop into machine.

In addition, your plant will be cleaner and more modern looking without a forest of shafting and belting hanging from the ceiling. And, with Allis-Chalmers card drives, there is plenty of room on the ceiling for air conditioning equipment.

Changing to Allis-Chalmers individual card drives is simple. The complete drive unit mounts on your present card cylinder shaft. A torque arm attached to the card keeps it in place. It fits present aisle space. Note that there is no vibration or strain on the card arch, and weight of the drive does not overload the bearing.

ALLIS-CHALMERS

Specialized Service Backs these Drives

Allis-Chalmers distributors and district offices are equipped to provide the application help you need. In addition, the distributors listed below operate "Certified Service" shops. Here factory-approved methods and parts are used to assure like-new service from your motors, transformers and control.

Allis-Chalmers District Offices and Certified Service Shops in Textile Areas

Allis-Chalmers textile specialists are located in the following cities:

Atlanta, Georgia
Birmingham, Alabama
Boston, Massachusetts
Charlotte, North Carolina
Chattanooga, Tennessee
Dallas, Texas
New Orleans, Louisiana
Providence, Rhode Island
Richmond, Virginia

Certified Service Shops

ALABAMA
- Birmingham — Electrical Repair & Service Co. 2411 First Ave., South
- Dothan — Alabama Electric Company 215 E. Troy Street
- Montgomery — Standard Electric Co. 505 N. Decatur St.
- Tuscaloosa — Freeman's Electric Company 1616 25th Ave.

CONNECTICUT
- Hartford — Charles H. Leppert 100 Walnut Street

GEORGIA
- Albany — Georgia Electric Co. 927 Roosevelt Ave.
- Atlanta — Bearden-Thompson Electric Co. 1085 Bankhead Ave., N.W.

NEW HAMPSHIRE
- Concord — A. S. Tracy 28 Green Street

NORTH CAROLINA
- Charlotte — Southern Electric Service Co., Inc., 714 W. Trade Street
- Greensboro — Southern Electric Service Co., Inc.
- Henderson — Electric Motor & Machine Service 518 W. Montgomery Street
- Rocky Mount — Hammond Electric Company 824 S. Church Street
- Columbus — Smith-Gray Electric Company 710 Third Ave.

LOUISIANA
- New Orleans — Industrial Electric, Inc. 3227 Magazine Street
- Shreveport — Shreveport Armature & Electric Works, 800 Spring St.

MAINE
- Brewer — Stanley J. Leen Company 54 Wilson Street

MASSACHUSETTS
- Lawrence — Roland B. Glines Co. 265 Lowell Street
- Springfield — Electric Motor Repair Co. 11 Park Street

SOUTH CAROLINA
- Greenville — Southern Electric Service Company, Inc.
- Spartanburg — Southern Electric Service Company, Inc.

TENNESSEE
- LaFollette — Standard Armature Works LaFollette, Tenn.
- Memphis — Industrial Electric & Supply Co., Inc., 62 Auction Ave.

TEXAS
- Amarillo — G. E. Jones Electric Company Inc., 212 N. Polk Street
- Dallas — Industrial Electric Equipment Co., 1119 S. Industrial Blvd.
- Fort Worth — Central Electric Company 712 N. Main Street

VIRGINIA
- Norfolk — Virginia-Carolina Electrical Works, 1007 E. Main Street
- Richmond — Wingfield & Hundley 13 South 17th Street
- Roanoke — Virginia Armature Company 310 W. Salem Avenue

Texrope, Quick-Clean, and Vari-Pitch are Allis-Chalmers trademarks.

Get More Information

Allis-Chalmers Manufacturing Company, Milwaukee 1, Wisconsin

Please send me literature checked below.

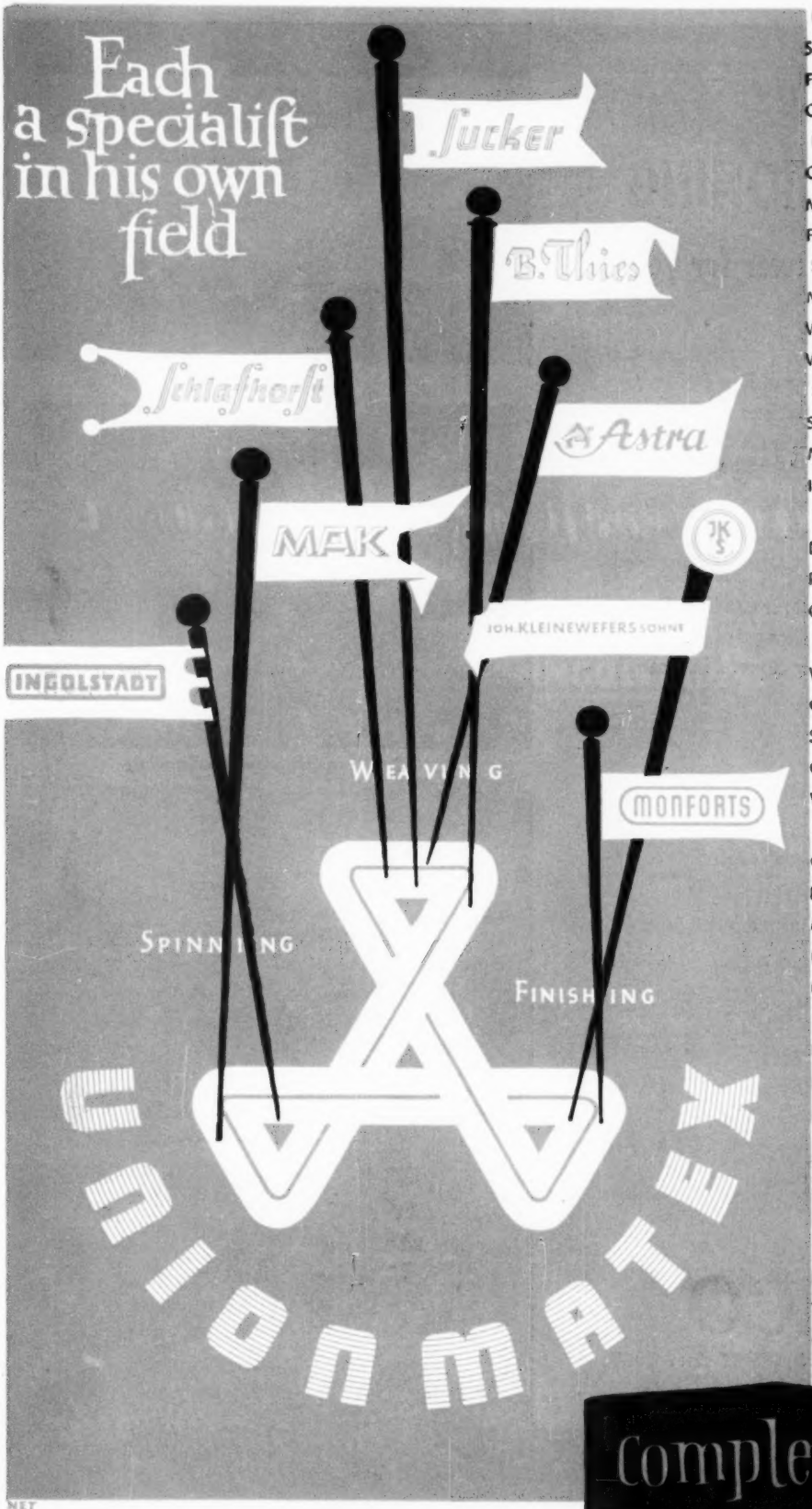
- ☐ Handy Guide to Motor Selection 51B6052
- ☐ *Quick-Clean* Textile Motors 51B6055B
- ☐ Across-the-Line Starters 14B7132
- ☐ Reduced-voltage Starters 14B7215
- ☐ *Vari-Pitch* Drive Engineering Data 20B7499

Name..... Title..... Company.....

Street..... City and State.....

A-4485

ALLIS-CHALMERS



INGOLSTADT:
SPINNING MACHINERY FOR COTTON-WORSTED-CUT RAYON

MAK:
CARD SETS · SELF-ACTING MULES · RING SPINNING FRAMES

SCHLAFHORST:
MACHINES FOR WINDING WARPING AND SECTIONAL WARPING

SUCKER:
SIZING MACHINES · SIZE MIXING AND COOKING INSTALLATIONS

THIES:
DYEING AND BLEACHING PLANTS FOR YARNS AND CARD-SLIVERS OF ALL KIND

ASTRA:
WEAVING MACHINES FOR COTTON- WOOL- AND SPECIAL FABRICS e. g. FELT-CLOTHS · JACQUARD-WEAVING MACHINES

KLEINEWEFERS:
CALENDERS · MANGLES · PRINTING-, MERCERIZING-MACHINES · CONTINUOUS BLEACHING AND DYEING PLANTS

MONFORTS:
FINISHING MACHINERY MAKING-UP MACHINERY FOR ALL KINDS OF CLOTH

UNIONMATEX

TEXTILMASCHINEN-UNION GMBH · FRANKFURT/MAIN
NEUE MAINZER STRASSE 22
TELEPHONE: 9 35 22
CABLE: UNIONMATEX
TELEPRINTER: 04 12487

Complete plants

When the question is

AIR CONDITIONING

what's the best answer for you?

Amco can offer you a choice of four different systems, alone or in combination: humidification, ductless evaporative cooling, unit dry-duct, or central station air conditioning. Whatever your particular requirements may be, Amco engineers will give you unbiased advice on the air conditioning system best suited to your needs.

The facts about textile mill air conditioning — the advantages and disadvantages of each type of system — are completely covered in Amco's new booklet — "Air Conditioning for the Textile Industry".

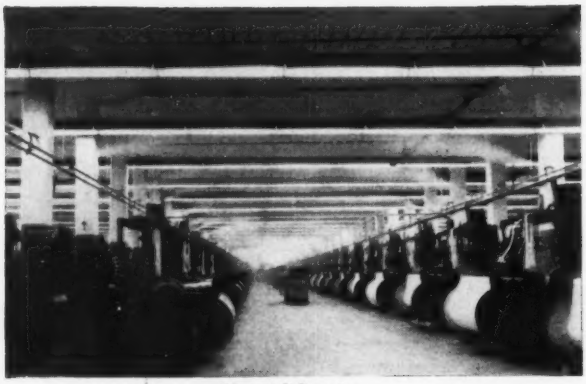
- . . . *what factors favor a central station system?*
- . . . *what is meant by a "split" central station system?*
- . . . *when is a dry-duct system advantageous?*
- . . . *what factors favor ductless evaporative cooling?*

These and other questions are answered and explained in this booklet. If you are one of the management group interested in air conditioning, write for your copy — or better still, ask an Amco engineer to call.

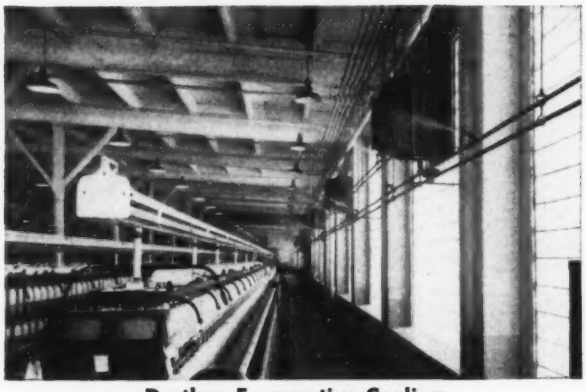
AMCO

AIR CONDITIONING SYSTEMS since 1888

AMERICAN MOISTENING COMPANY, PROVIDENCE, R. I.
• ATLANTA • BOSTON • CAMDEN • CHARLOTTE •
AFFILIATED WITH GRINNELL COMPANY, INC.

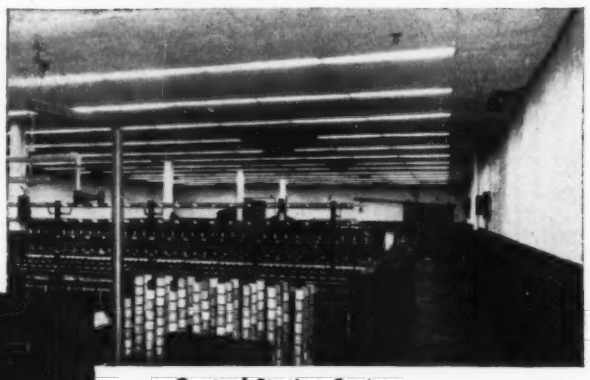


Humidification



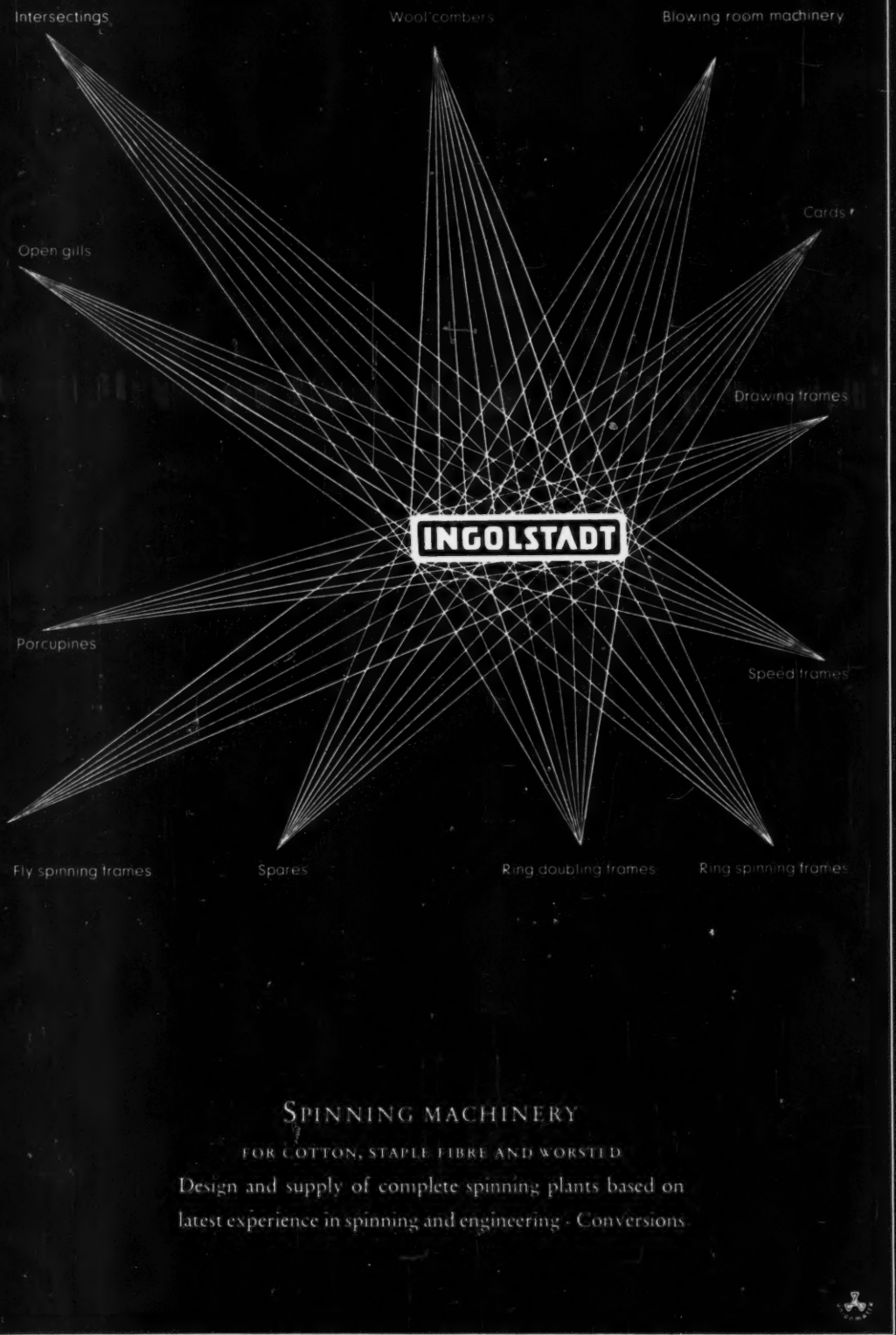
Ductless Evaporative Cooling

Unit Dry-Duct System



Central Station System

DEUTSCHER SPINNEREIMASCHINENBAU INGOLSTADT *Ingolstadt/Donau*



SPINNING MACHINERY FROM INGOLSTADT THROUGHOUT THE WORLD!

SPINNING MACHINERY FROM INGOLSTADT THROUGHOUT THE WORLD!

SPINNING MACHINERY

FOR COTTON, STAPLE FIBRE AND WORSTED

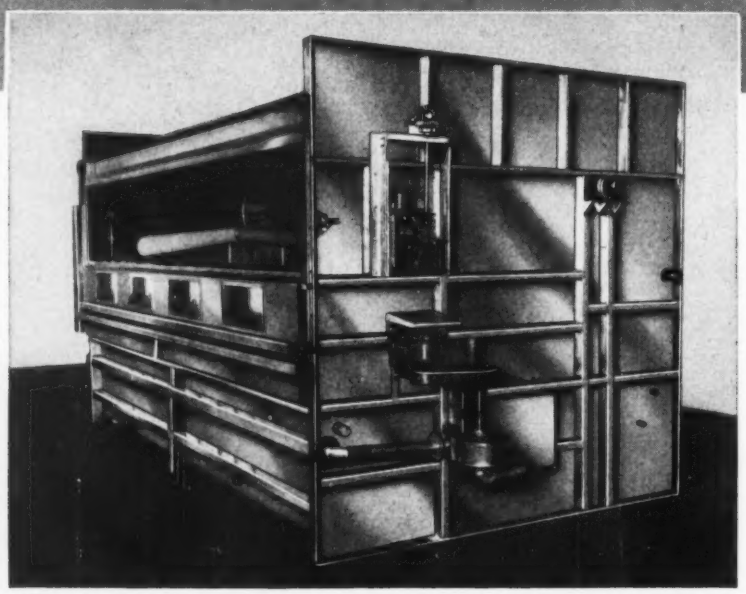
Design and supply of complete spinning plants based on latest experience in spinning and engineering - Conversions

DEUTSCHER SPINNEREIMASCHINENBAU INGOLSTADT *Ingolstadt/Donau*

The Fleet Line

RUG DYE KETTLE

With Successful New Features For LEVEL DYEING · EVEN TEMPERATURE FULL CIRCULATION OF LIQUOR



R&L Stainless Steel Rug Dye Kettle design solves problems of level dyeing which usually arise from position of rug in the kettle. Two strong impellor pumps induce positive liquor flow, steam and liquor are introduced at *front* of machine. Write for complete data.

FUNCTIONS — Dyes cotton or synthetic rugs in open width, also does rope dyeing.

FEATURES —

Stainless steel throughout, completely self-supporting construction.

Positive liquor flow controlled by pumps maintains even temperature and circulation throughout bath.

Cloth guiders, electronically controlled, automatically center cloth within very narrow limits of traverse movement.

Guiders are rubber covered, may be had in stainless steel.

Three different drive speeds give dyer ample choice for meeting varied conditions and for application of his own dyeing technique.

Steam and liquor introduced at *front* of machine through dispersants running full length of kettle.

Dye dispensers, salt dispensers.

Counterbalanced door easily raises and lowers from any position.

Automatic exhaustion when door is opened.

Interior lighted for easy supervision.

Made in widths to accommodate any size rugs.

ADVANTAGES —

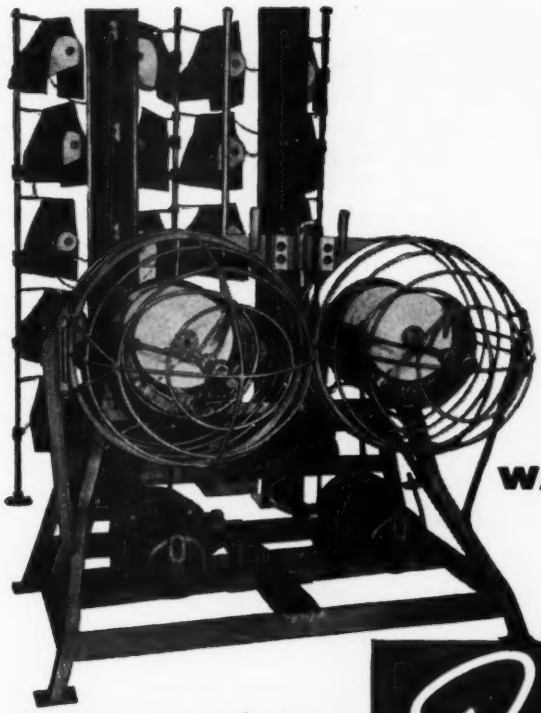
More level dyeing
Positive and assured results
Dyes rugs open widths
Lower labor costs
Faster dyeing cycle
Lower dyeing costs
Dyes in rope form
Easier maintenance

RIGGS AND LOMBARD INC.

FOOT OF SUFFOLK STREET, LOWELL, MASS.

Agents: Paul A. Merriam Co., 1491 Broad St., Providence, R. I. • Albert R. Breen, 80 E. Jackson Blvd., Chicago 4, Ill.
F. W. Warrington Co., 611 Johnston Bldg., Charlotte, N. C. • A. Harold Zayotti, Jr., P. O. Box 125, Riverton, N. J.
H. A. Mott Co. Limited, Brantford, Ontario, Canada

For more information, write direct or use Reader Service post card.



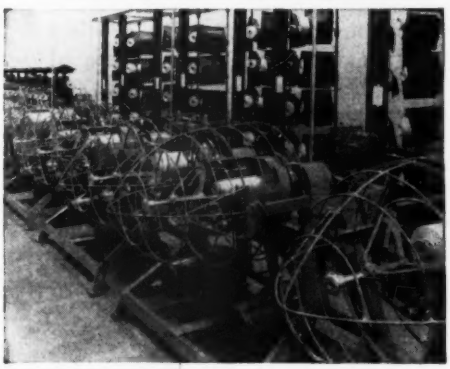
Announcing

THE LATEST ADDITION TO THE WARNER & SWASEY LINE...

Whirlwind*

TWISTER WINDER

- **More than doubles existing twisting speeds — winds up to 150 yd./min.**
- **Delivers precision-wound cone or tube packages up to 30 lbs. or more, dependent upon stock.**
- **Produces wide variety of finished cord sizes — 2,000 to 50,000 denier.**
- **2 to 120 ply count — even higher.**
- **Ruggedly built—simple to operate.**



A battery of Whirlwind Twister Winders in production at Deering Milliken Mills. Note that two spindles are mounted on a single base for economy of floor space.

NOW YOU CAN *more than double the speed* of your twisting operations, and eliminate winding after twisting, with the new Whirlwind Twister Winder! It produces heavy cords for a wide variety of uses—with extreme uniformity of ply and twist—delivering perfectly wound, knotless packages as large as 25 to 30 pounds each, if desired.

The Whirlwind was developed and perfected by the Deering Milliken Research Trust. And these machines have been mill-proven at Deering Milliken Mills during more than a year of virtually constant three-shift production of sales cords. It has proved exceptionally flexible, producing cords in a wide range of desired twists, ply counts, and finished cord sizes.

If you are a supplier or industrial user of plied cords, yarns, or twines, this versatile new machine offers you dependable, *faster, more economical* production of synthetic, cotton, wool, jute or glass cords.

SALES OFFICES

Main Office and Factory: 5701 Carnegie Ave., Cleveland 3, Ohio
61 Rivulet St., North Uxbridge, Mass. 121 11th St., N.E., Atlanta 3, Ga.
6910 Market St., Philadelphia, Pa. 1820 Browning Ave., Charlotte, N. C.

TEXTILE MACHINERY DIVISION

*Trade-Mark

YOU CAN PRODUCE IT BETTER, FASTER, FOR LESS WITH WARNER & SWASEY MACHINE TOOLS, TEXTILE MACHINERY, CONSTRUCTION MACHINERY

THE NEW SARGENT

WET and DRY PICKER

SINGLE PROCESS

ANY FIBRE . . . . ANY BLEND

OPENS • PICKS • BLENDS

AUTOMATIC FEEDER — Model N. Continuous, automatic feeds for scouring machines, openers, pickers, squeeze rolls, pit-type and rotary feeds; burr pickers, bin-storage feeds, etc. Write for Bulletin No. 174.

Flexible adjustment of opening action permits gentlest handling of synthetics. Used extensively by producers of synthetic staple for picking before or after drying and before carding. Also highly popular in absorbent cotton industry for opening bleached fibres before drying.

This thoroughly versatile modern production aid is proving invaluable to mills running a variety of fibres and blends — in providing thorough action with maximum protection to fibres. Built in widths 18 to 72 inches, or to your specifications.

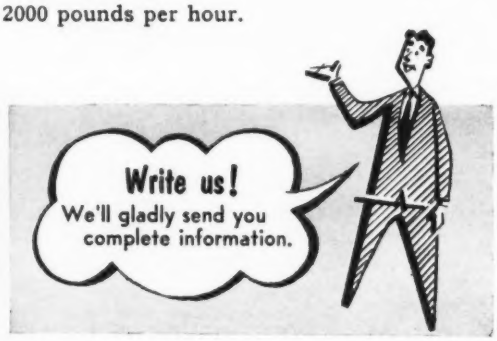
Production 600 to 2000 pounds per hour.

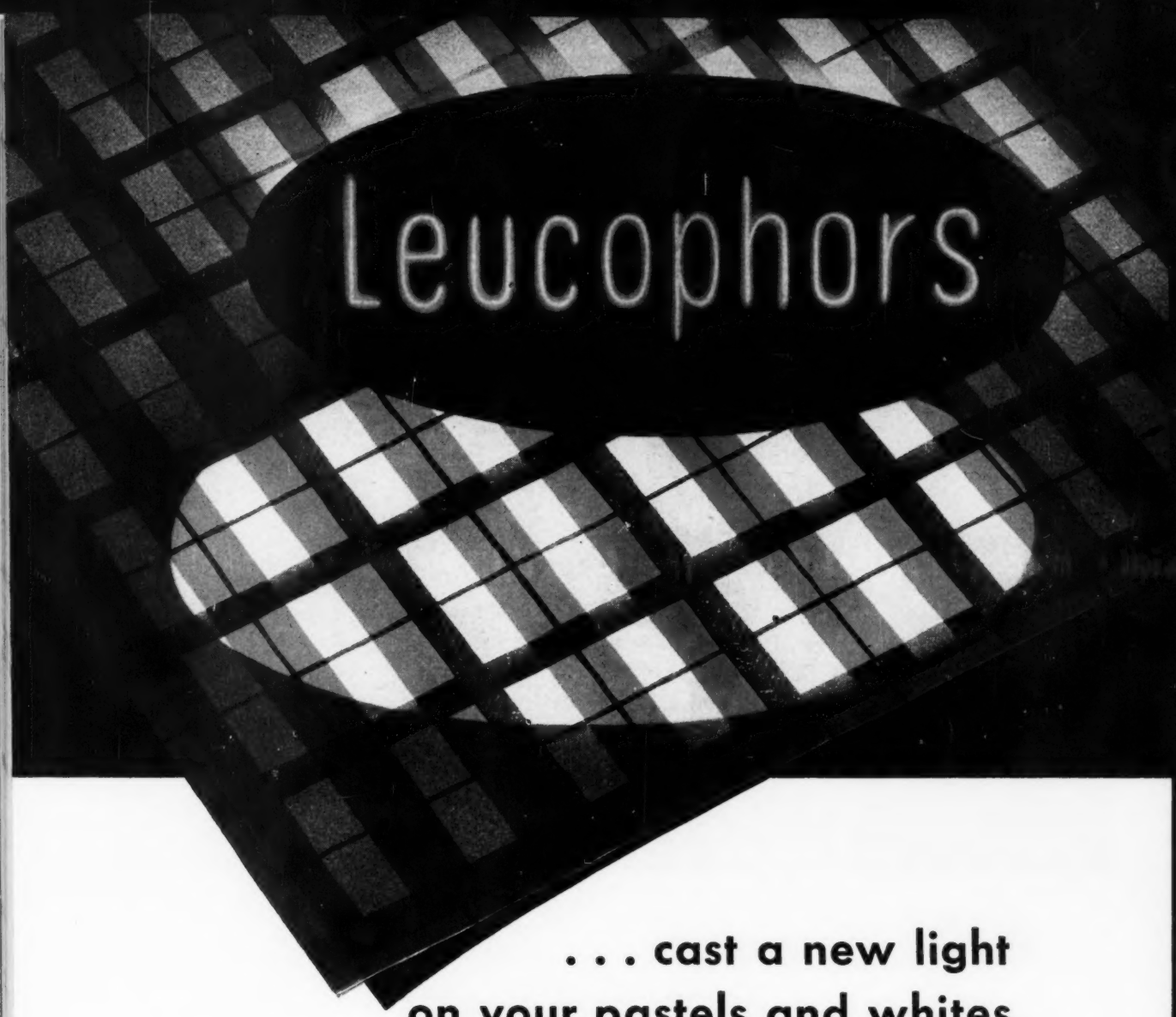
SINCE 1852

C. G. SARGENT'S SONS CORP.

Graniteville, SINCE 1852 Massachusetts

REPRESENTATIVES F. E. WASSON, 519 Murdock Rd., Philadelphia 19, Pa.
A. L. MERRIFIELD, 730 Brooks Ave., Cincinnati 15, Ohio
W. S. ANDERSON, Carolina Specialty Co., Charlotte, N. C.
HUGH WILLIAMS & CO., 47 Colborne St., Toronto 1, Canada
ROBERTO ZANDER MONTEVIDEO LTDA., Juan Carlos Gomez 1461, Montevideo, Uruguay





. . . cast a new light on your pastels and whites

Meet the line of *optical brighteners* that brightens cotton, rayon, wool, nylon, acetate, silk, Orlon, Dynel.

Sandoz Leucophors brighten fabrics by absorbing invisible ultra-violet light and re-emitting it as visible light of longer wave length. Result: whiter whites and brighter brights that just naturally catch the eye.

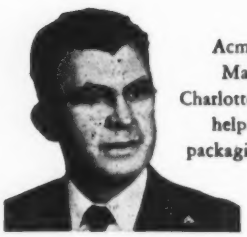
Get full details on the Leucophor that best meets your current needs from your nearest Sandoz office: Hudson, Mass.; Fairlawn, N.J.; Philadelphia; Charlotte; Cincinnati; Los Angeles; Montreal; Toronto. Sandoz Chemical Works, Inc., 61 Van Dam Street, New York 13, N.Y. B.4.1

SANDOZ

SANDOZ

THINKS AHEAD WITH TEXTILES

AIM* for INCREASED packaging productivity with Acme Steel Strapping Ideas



Acme Idea Man, Mark Brown of Charlotte, N. C., has helped solve this packaging problem.

ask your
*Acme Idea Man
to help solve your
problems

Acme Steel Strapping Idea #402 for securing tire fabric helps keep shipments at Firestone Textiles, Gastonia, N. C., abreast of continuous production schedules. The bulky rolls of tire cord fabric, five feet long and up to 36" in diameter, are covered with burlap and then firmly bound with steel strapping. Acme Steel Strapping, as used in this one operation, makes it possible for two men to package ten to twelve 1300-pound rolls an hour. This application of Acme Steel's strapping methods and tools at Firestone reduces materials handling and shipping costs and makes sure merchandise will arrive undamaged.

Your Acme Steel Idea Man is a specialist in all problems involving materials handling. He's always ready to help save time and money in your shipping and packaging operations. Call him —or write Acme Steel Products Division, Dept. TW-EE-124, Acme Steel Company, 2840 Archer Avenue, Chicago 8, Illinois.

AIM *For Safe, Lower-Cost Shipping*

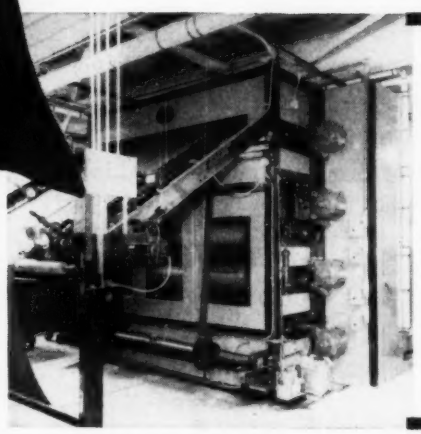
ACME STEEL

For more information, write direct or use Reader Service post card.

HUNTER *equipment safeguards quality at* Cyril Johnson

Strict quality control in every phase of manufacturing enables the Cyril Johnson Woolen Co. to produce the distinctive materials preferred by leading designers of men's fine outerwear.

Here, and in many other progressive mills where quality is so safely guarded, Hunter "plus production" equipment is used to finish a wide variety of ***woolens, cottons, blends*** and ***synthetics.***



CYRIL JOHNSON and other leading mills use the Hunter Model F Uniflow Tenter Dryer to produce more yardage, on a wide variety of fabrics, with lower costs for steam, labor and power. This efficient unit is designed and constructed for *faster, safer* and *more uniform* drying. Send for **BULLETIN UTD-2.**

plus production

- efficient operation of modern equipment
- less down time of equipment
- quick, easy repair . . . rapid parts delivery

JAMES HUNTER MACHINE COMPANY

NORTH ADAMS, MASSACHUSETTS FOUNDED 1847

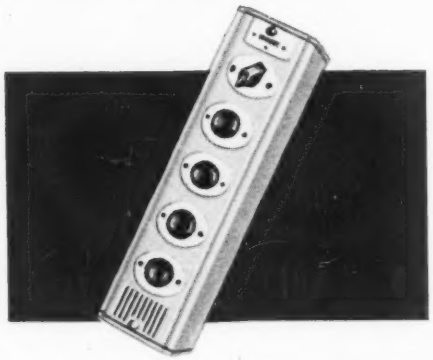
BUILT BY HUNTER . . . IT'S DEPENDABLE

JAMES HUNTER MACHINE CO. Hunter NORTH ADAMS MASS.

DIAL THE SPEED—CONTROL THE PROCESS

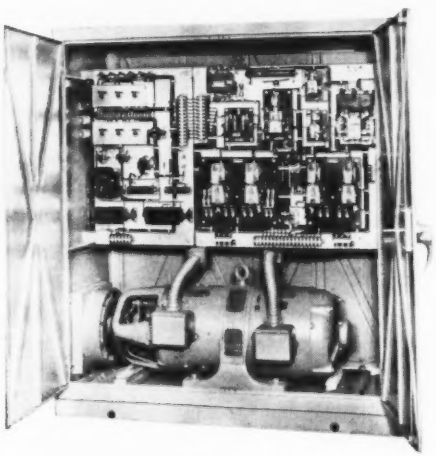
with a Performance Rated® Century SELECTIVE SPEED DRIVE

- **Offers automatic control integrated with your process.**
- **Covers a wide speed range—forward or reverse.**
- **Starts, stops—fast or slow.**
- **Allows forward or reverse jogs.**
- **Controls one or more motors.**



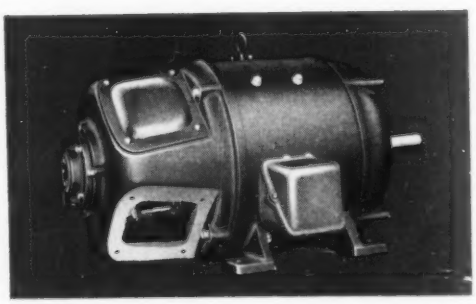
With a Century Performance Rated Selective Speed Drive, you can often integrate speed changes to cycle automatically as the process requirements dictate.

- You can automatically regulate metal cutting for optimum cutting speeds.
- Make the speed change automatically sensitive to changing temperature or pressure.
- Make the speed change automatically sensitive to changing diameter of a feed roll.
- Make the speed change automatically sensitive to the viscosity of a mix.
- You can use many different kinds of control devices in the control circuit to change speeds ... to jog ... to apply dynamic braking, etc.



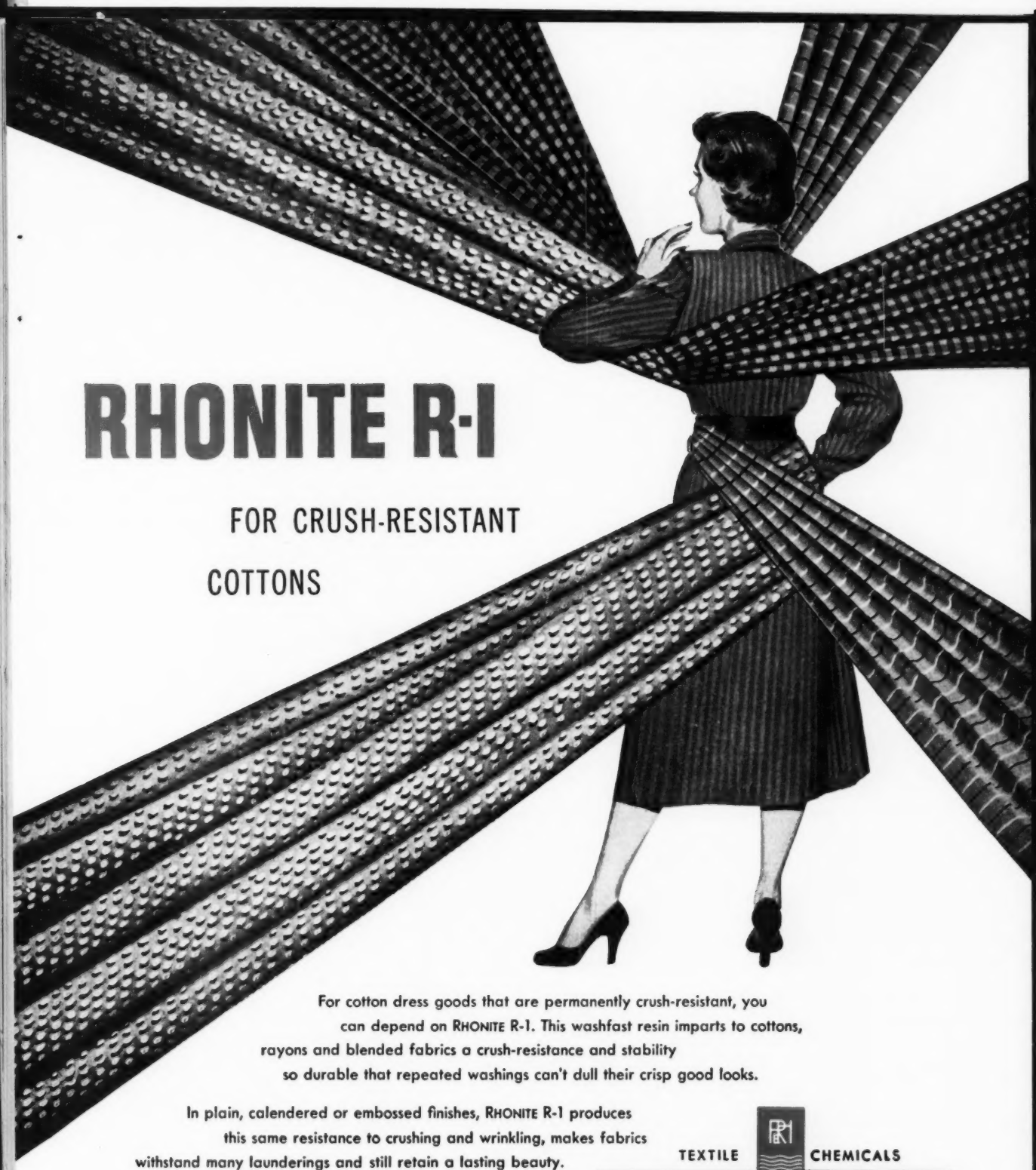
You're welcome to full information on your specific drive problem. Call your nearest Century District Sales Office or Century Authorized Distributor, or write direct. See telephone listings.

Century makes A. C. and D. C. motors 1/8 to 400 H. P.



Century C MOTORS

CENTURY ELECTRIC COMPANY
1806 Pine Street, St. Louis 3, Missouri
Offices and Stock Points in Principal Cities



RHONITE R-1

FOR CRUSH-RESISTANT COTTONS

For cotton dress goods that are permanently crush-resistant, you can depend on RHONITE R-1. This washfast resin imparts to cottons, rayons and blended fabrics a crush-resistance and stability so durable that repeated washings can't dull their crisp good looks.

In plain, calendered or embossed finishes, RHONITE R-1 produces this same resistance to crushing and wrinkling, makes fabrics withstand many launderings and still retain a lasting beauty.

For unusual crush-resistance, it pays to use RHONITE R-1.

Write or call for complete information about RHONITE R-1—one of the quality chemicals for textile finishing made by Rohm & Haas Company.

TEXTILE CHEMICALS

ROHM & HAAS COMPANY

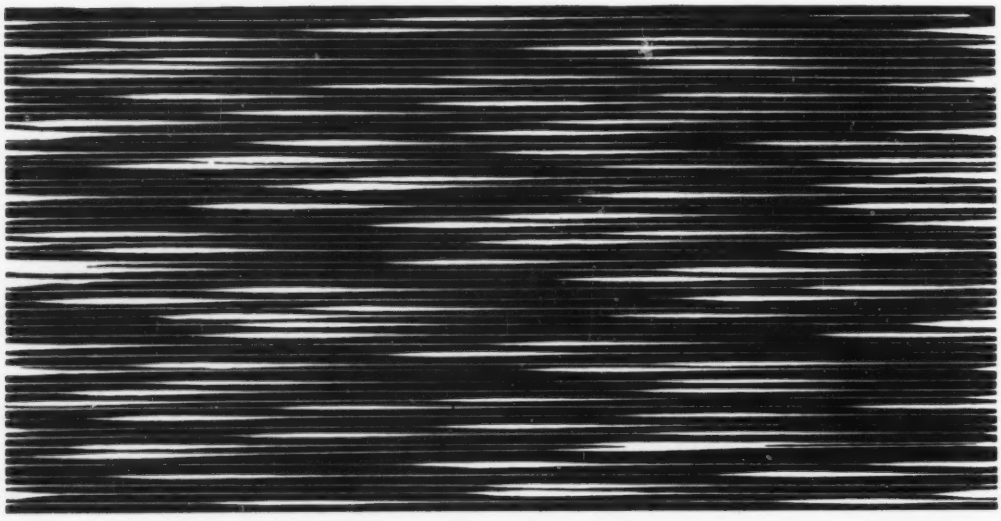
WASHINGTON SQUARE, PHILADELPHIA 5, PA.

Representatives in principal foreign countries

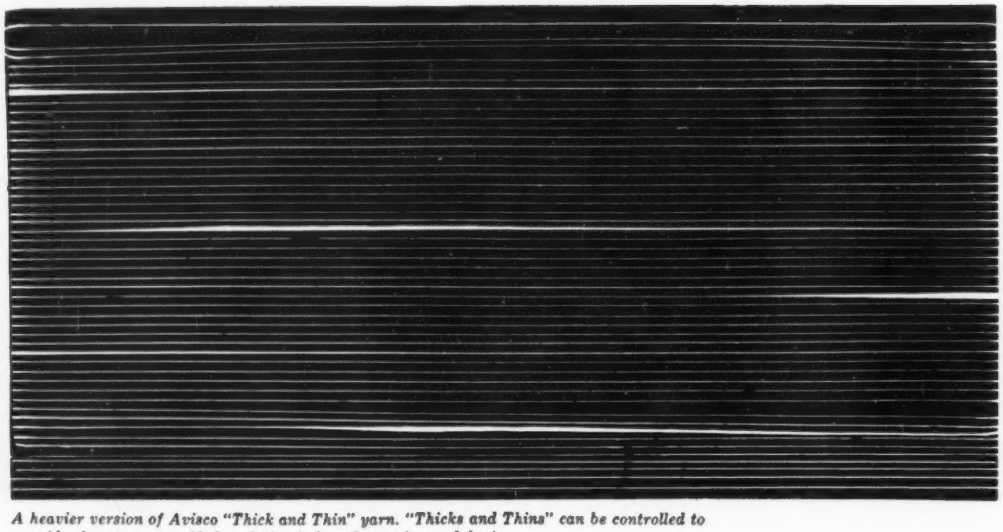
RHONITE is a trademark, Reg. U.S. Pat. Off. and in principal foreign countries.

American Viscose Announces:

THE MOST VERSATILE YARN EVER



One of the denier types of Avisco "Thick and Thin" yarn. Notice the random natural pattern



A heavier version of Avisco "Thick and Thin" yarn. "Thicks and Thins" can be controlled to provide almost any specified variation in length, spacing and denier.

VINYON is a trademark, Reg. U.S. Pat. Off. and in principal foreign countries.

OFFERED THE FABRIC DESIGNER

AVISCO®

"THICK and THIN"

A NEW RAYON YARN WITH:

1. **An extremely wide range of "Thicks and Thins**
2. **Wide variations in slub length**
3. **Completely random distribution—no repeats**

Forget any other yarns that ever claimed to be versatile. This is yarn versatility that has never before been approached.

After intensive experimentation with an entirely new method of yarn spinning, American Viscose brings you "Thick and Thin" yarns unlike any you have ever seen before. This development vastly expands the potentials for such yarns.

With Avisco "Thick and Thin" you have opportunities in textured fabrics that are as infinite as space. Name the texture—anything from the fine duoppioni to the shantung and coarse linen types. They're all easily obtainable with Avisco "Thick and Thin"!

These yarns can launch a thousand faces—a thousand fascinations. They can pour endless new drama, glamour, lure and promotability into your fabric line!

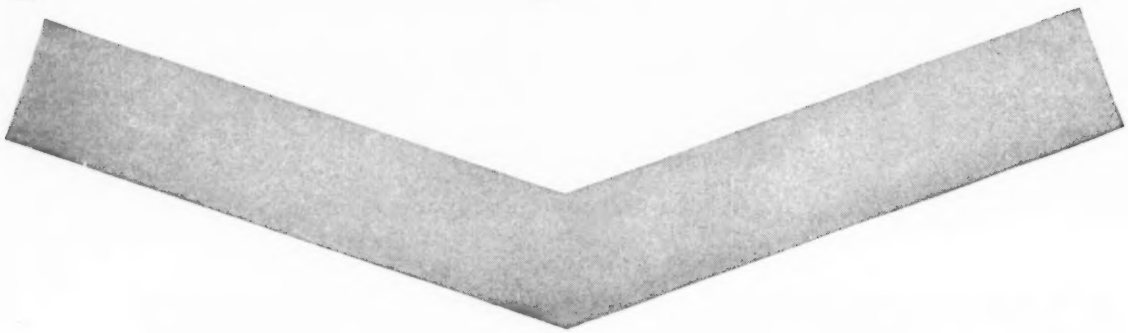
If you know that it continually takes something new and different to keep the fabric business flourishing, then you'll take to Avisco "Thick and Thin." American Viscose is ready to work closely with you in adapting these yarns to your needs. Call LA 4-7200 and find out how Avisco "Thick and Thin" rayon yarn can broaden your fabric horizons.

AMERICAN VISCOSE CORPORATION

Avisco®

AMERICA'S FIRST PRODUCER OF MAN-MADE FIBERS • 350 FIFTH AVENUE, NEW YORK 1, N. Y.
RAYON, ACETATE, VINYON,† FILATEX® †Inc. a CCC

Only Brown flow meters offer you these profitable "*plus*" *values*

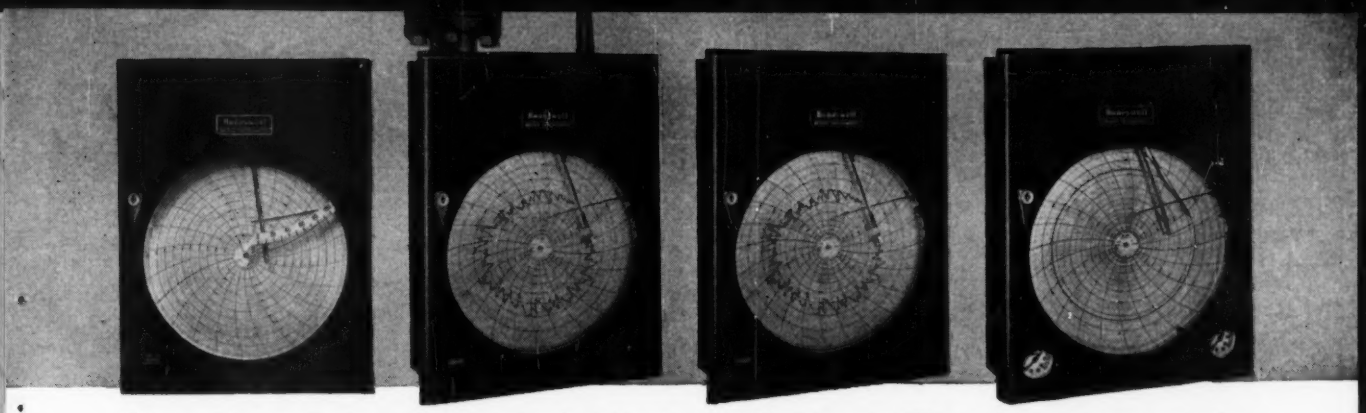


- ***16 different types*** of basic instrument systems . . . a flow meter for every fluid, every pressure, every operating requirement. *You're sure to find the most profitable meter for your specific application.*

- ***Nearby service facilities.*** There's a Honeywell service center as near to you as your phone. Service by factory-trained specialists is prompt, competent and economical. *You're sure to get maintenance and start-up service without delay.*

- ***27 years of experience*** in flow metering development and application work. *You're sure to get specialized engineering on your flow metering problem.*

- ***Nationwide field organization.*** Brown flow metering consultation is available from experts in more than 90 field offices, located near every major production center. *You're sure to have application engineering on hand where and when you need it.*

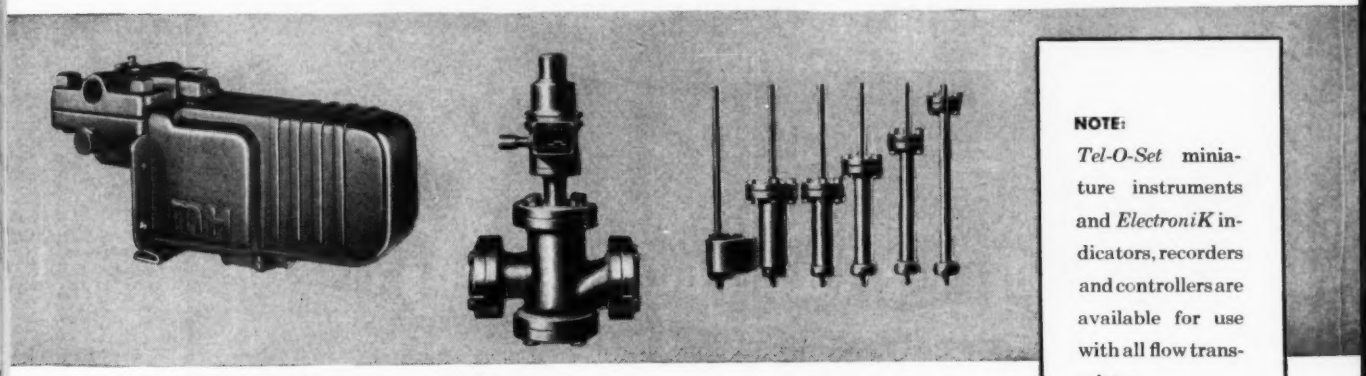


Linear scale meters—mechanical or electrical types, all control forms.

Square root scale meters—mechanical, or electrical or pneumatic transmission . . . all control forms.

Portable meters—versatility, for spot checks of flow values not continuously recorded.

Low pressure meters—either electrical or mechanical type, for air or gas flow.



Differential Converter—mercury-less pneumatic flow transmitter with infinitely adjustable range.

Area Type Meters for measuring flow of viscous fluids . . . electrical transmission.

Interchangeable range tubes typify rangeability of all Brown flow meters.

NOTE:
Tel-O-Set miniature instruments and *ElectroniK* indicators, recorders and controllers are available for use with all flow transmitters.

a flow meter for every fluid...

every application (all available with electronic integration)

IN PERFORMANCE, too, Brown flow meters provide you unsurpassed precision . . . reliability . . . convenience . . . with minimum maintenance requirements. In every way, you'll find it pays to select your flow meters from the one line that offers the most value.

Your nearby Honeywell sales engineer will be glad to discuss your specific flow application . . . and he's as near as your phone.

MINNEAPOLIS-HONEYWELL REGULATOR CO., *Industrial Division*, Wayne and Windrim Avenues, Philadelphia 44, Pa.

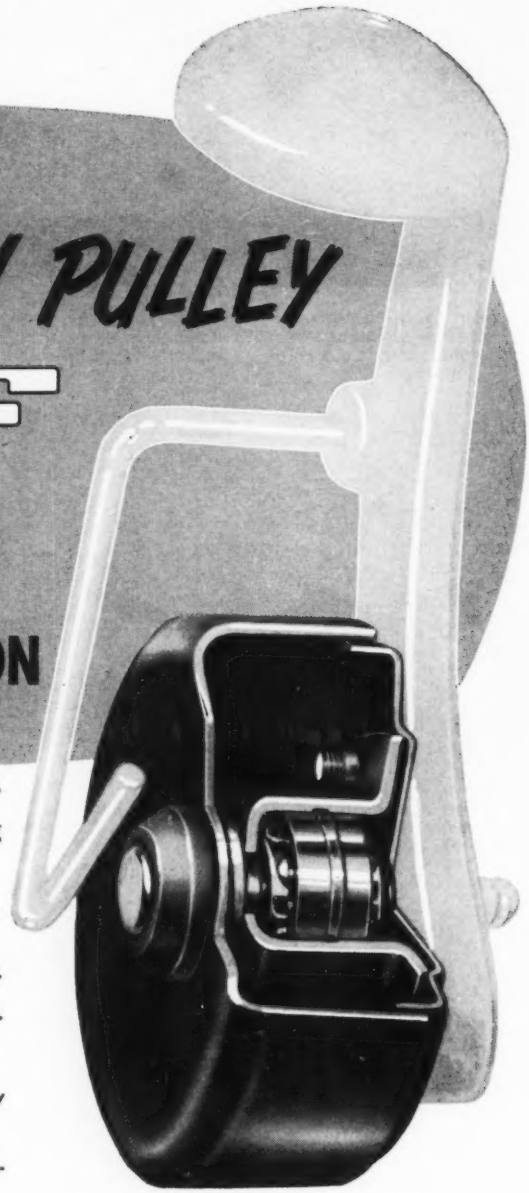
● **REFERENCE DATA: Write for new Catalog 2320, "Flow Meters, Indicating, Recording, Integrating, Controlling."**

MINNEAPOLIS
Honeywell
BROWN INSTRUMENTS
First in Controls

A NEW TENSION PULLEY

From SKF

8 WAYS BETTER
LOW IN COST
PROVEN IN OPERATION



Available for immediate delivery, this new SKF Tension Pulley is an improved design, supplementing the one originated by SKF in 1933.

Here are its 8 cost-cutting advantages:

1. *Designed around a tilt-proof double-row SKF ball bearing.*
2. *Low in first cost, low in operating cost, low in maintenance cost.*
3. *Strong all-steel construction for long life.*
4. *Needs lubrication only once every 3 years for 3-shift, 6-day operation. Grease fitting makes re-greasing easy.*
5. *Because it is the inner ring of the bearing that rotates, lubrication is more efficient and capacity is higher.*
6. *Fly and dirt proof.*
7. *Smooth running, almost noiseless.*
8. *Two screw fasteners make it adaptable to various type brackets.*

SKF, the pioneer, still leads with more efficient anti-friction textile units. Ask your nearest SKF District Office for all the facts—and have your SKF Field Engineer tell you about three *other* important SKF Textile Bearing Specialties . . . the SKF Pendulum Arm . . . the SKF Ball Bearing Top Roll . . . the SKF Roller Bearing Spindle. 7537

SKF INDUSTRIES, INC., PHILADELPHIA 32, PA.
—manufacturers of **SKF** *and* HESS-BRIGHT® *bearings.*

SKF®
TEXTILE BEARING SPECIALTIES

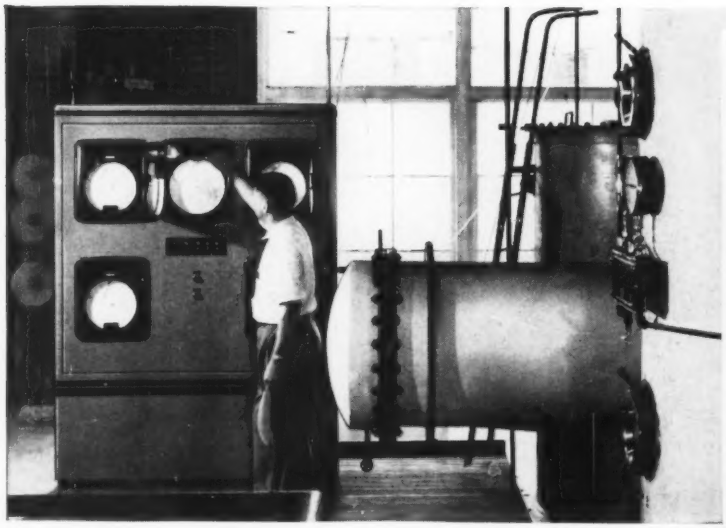
A lamb in ORLON *clothing*

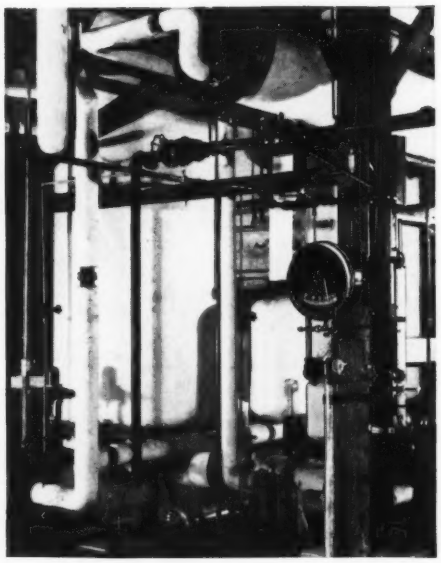
tantalizing? revolutionary?

but *yours* for the asking now... Burlington has pioneered again, and proudly announces the success of their new machine which makes possible *for the first time* the dyeing of Dacron and Orlon woven fabrics in colors richer than the rainbow. And, as wise men know, at the foot of the rainbow lies the pot of gold.

BURLINGTON ENGINEERING CO., INC., GRAHAM, N. C.

Get Real Caustic Economy with AUTOMATIC EVAPORATOR CONTROL





Installation at one of American Thread Company's plants, designed for Zaremba Evaporators. Careful estimates indicate that this Foxboro Cabinet Control system will pay for itself in less than a year through new, overall economies.

A New Opportunity to Modernize Another Important Textile Process

By adapting the basic principles of successful evaporator control to textile processing, a far more efficient means of reclaiming caustic is made available. Through accurate, coordinated control of variables, this latest Foxboro development improves caustic reclamation three ways . . . it increases evaporator capacity and saves caustic, thus cutting costs; it helps to reduce stream pollution, and it eliminates routine checking, manual controlling and record writing.

Textile Machinery and Mill men worked closely with Foxboro engineers in developing this important new automatic control system. Such cooperation frequently leads to important processing advances and this is no exception. For complete information on the new automatic evaporator control, contact your nearby Foxboro Field Engineer or write, **The Foxboro Company, 8412 Neponset Ave., Foxboro, Massachusetts, U. S. A.**

5 OUTSTANDING FUNCTIONS

1. *controls caustic concentration automatically by electronic comparison of solution's boiling point to boiling point of water at the same pressure . . . a unique method on Foxboro systems, known as "boiling point rise" control—*

2. *accurately measures steam flow and weak liquor flow to indicate efficiency of evaporators for better maintenance—*

3. *controls liquid level of make-up caustic tanks—*

4. *measures the percent of caustic in steam condensate and condenser hot water leaving evaporator . . . and—*

5. *automatically diverts these to sewer if caustic content rises above safe limits.*

FOXBORO
Reg. U. S. Pat. Off.

Process-Improving Controls FOR THE TEXTILE INDUSTRY

News about

B. F. Goodrich Chemical *raw materials*

upgrade denim with Hycar latex

a simple, low cost method

THERE'S new life *and* sales appeal in denim that is upgraded with Hycar latex. Because of its improved wearing qualities and washfastness, Hycar treated denim can be used for sportswear and other garments where conventional denim is not practical. Hycar latex is easily applied as a warp size to cotton yarn or as an aftertreatment to the finished fabric. Hycar nitrile latex offers these advantages:

Ease of application. Prepared and applied at room temperature using conventional slashing or padding equipment.

High loom efficiency. Properly Hycar-sized yarns weave as well as yarns with high quality starch sizes.

Permanence. Hycar size lasts through extensive launderings—does not interfere with the Sanforizing processes.

Desirable hand. The finished denim has a pleasing soft, yet full hand unaffected by many washings.

Improved washfastness. In Launderometer tests, Hycar-sized blue denim showed no apparent fading or staining.

Increased wear life. Comparison after five launderings shows that Hycar-sized denim has an abrasion resistance 3 to 5 times that of regular starch sized denim.

Find out how Hycar nitrile latices can help you produce improved denim and other cotton products. For information, please write Dept. HZ-6, B. F. Goodrich Chemical Company, Rose Building, Cleveland 15, Ohio. Cable address: Goodchemco. In Canada: Kitchener, Ontario.

Hycar Reg U.S. Pat Off
Latex

B. F. Goodrich Chemical Company
A Division of The B. F. Goodrich Company

GEON polyvinyl materials • HYCAR American rubber • GOOD-RITE chemicals and plasticizers • HARMON colors

GOOD NEWS for dyers and finishers

Automatic Temperature Control for Under $200!

Simple...Accurate...Reliable

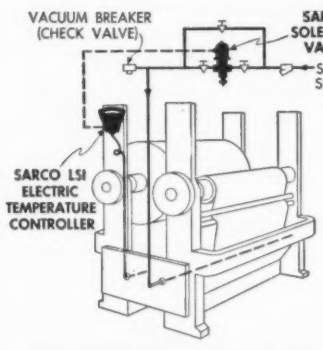
SENSITIVE BULB: A change of only ½°F in the sensing element actuates fully-enclosed switch which in turn controls solenoid to open or close steam circuit.

EASY-TO-READ DIAL: Provides continuous visible check of controlled temperature. Eliminates the burden of maintaining complicated temperature recording mechanisms.

ADJUSTABLE TEMPERATURE SETTINGS: A finger-tip turn of this knob instantly changes temperature settings. Set temperature is indicated by a red pointer at top of dial.

AMBIENT TEMPERATURE COMPENSATOR: Prevents control error due to fluctuations in room temperature. Compensator automatically adjusts instrument to the temperature of the air surrounding the case.

SARCO LSI ELECTRIC TEMPERATURE CONTROLLER



MAN HOURS SAVED, DYEING IMPROVED

A large Eastern textile finisher was having difficulties trying to maintain uniform dyeing. His problem was caused by creeping bath temperatures brought about by the use of manual control of steam valves on dye jigs. Now, after installing Sarco LSI Electric Temperature Controllers (as shown in hookup above) he is getting uniform dyeing jobs. Operator simply sets controller for each run, has time to operate additional jigs.

Yes, you can enjoy all the many advantages of automatic temperature control—without investing in costly, elaborate control equipment.

Here is a Sarco Electric Indicating Temperature Controller which is inexpensive (costs under $200, complete with solenoid valve). It is extremely accurate, thoroughly dependable, simple and durable. Just check the above features.

And you have the assurance, too, of knowing that this Sarco automatic temperature controller has been thoroughly service-proved in many textile plants—on dye becks, padders, vats, jigs, tumblers, etc. We'll gladly send you actual case histories on these applications.

Dyers and finishers who have replaced manual control with this low-cost automatic temperature control report increased production, improved quality, saving in steam and man-hours

For complete information write to Sarco Company, Inc., Empire State Bldg., New York 1, N.Y.

SARCO *improves product quality and output*

2097-B

ELECTRIC AND SELF-POWERED TEMPERATURE CONTROLLERS • STEAM TRAPS • STRAINERS

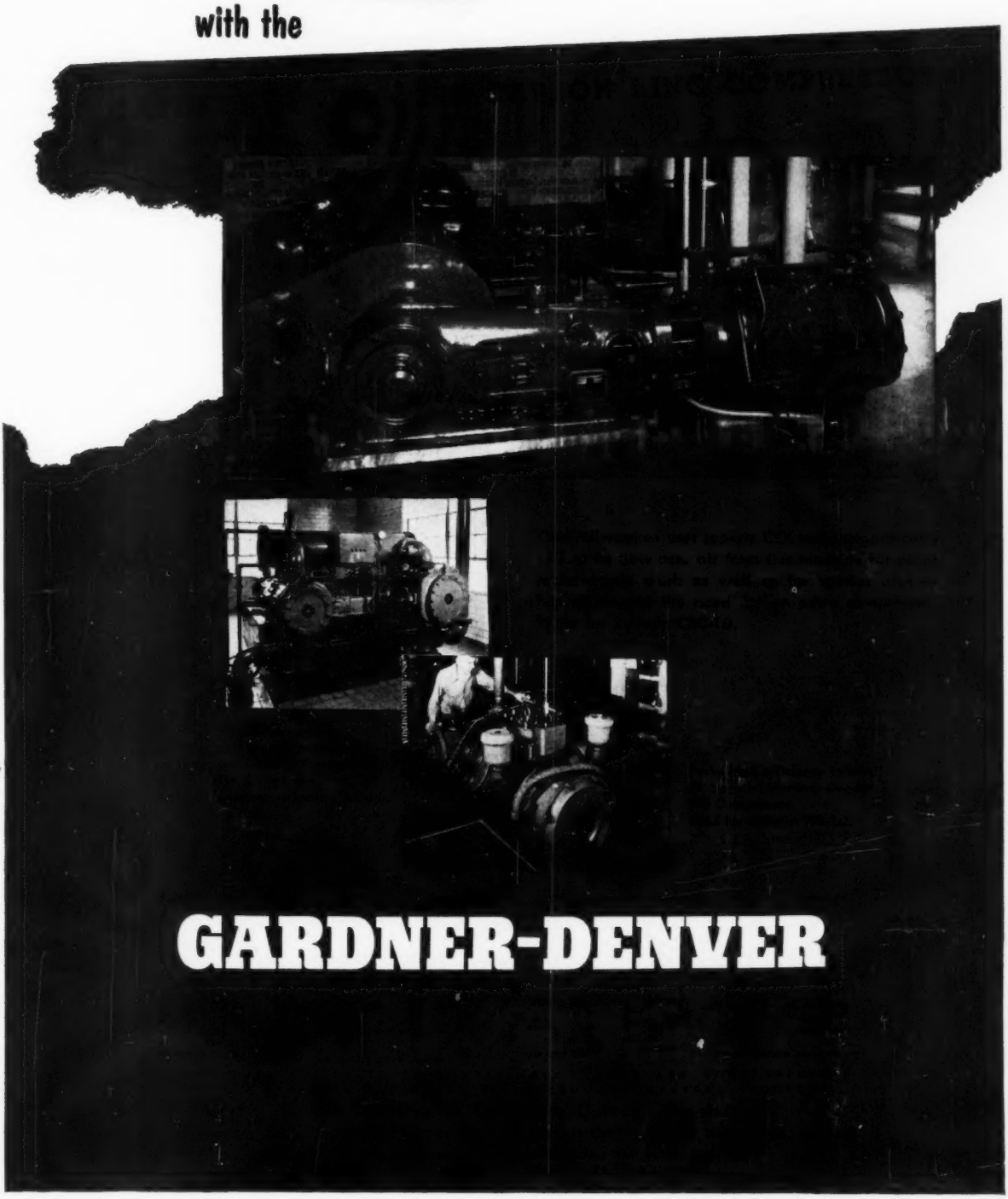
pure air...

— that's free from oil, and safe for food, textiles, instrumentation systems —

at low cost...

— operating and maintenance costs comparable to those for an ordinary compressed air system

with the



GARDNER-DENVER

DAYCO Cots Eliminate

New ingredient, IBC, successfully prevents build-up of long staple fibres that cause

Ask any mill owner who has converted to Dayco Cots on his spinning frames! He'll tell you Daycos have rid his mill of excessive eyebrowing, *completely.*

The reason Daycos have been able to solve this problem, where other cots have failed, is because of a new wonder ingredient — IBC.

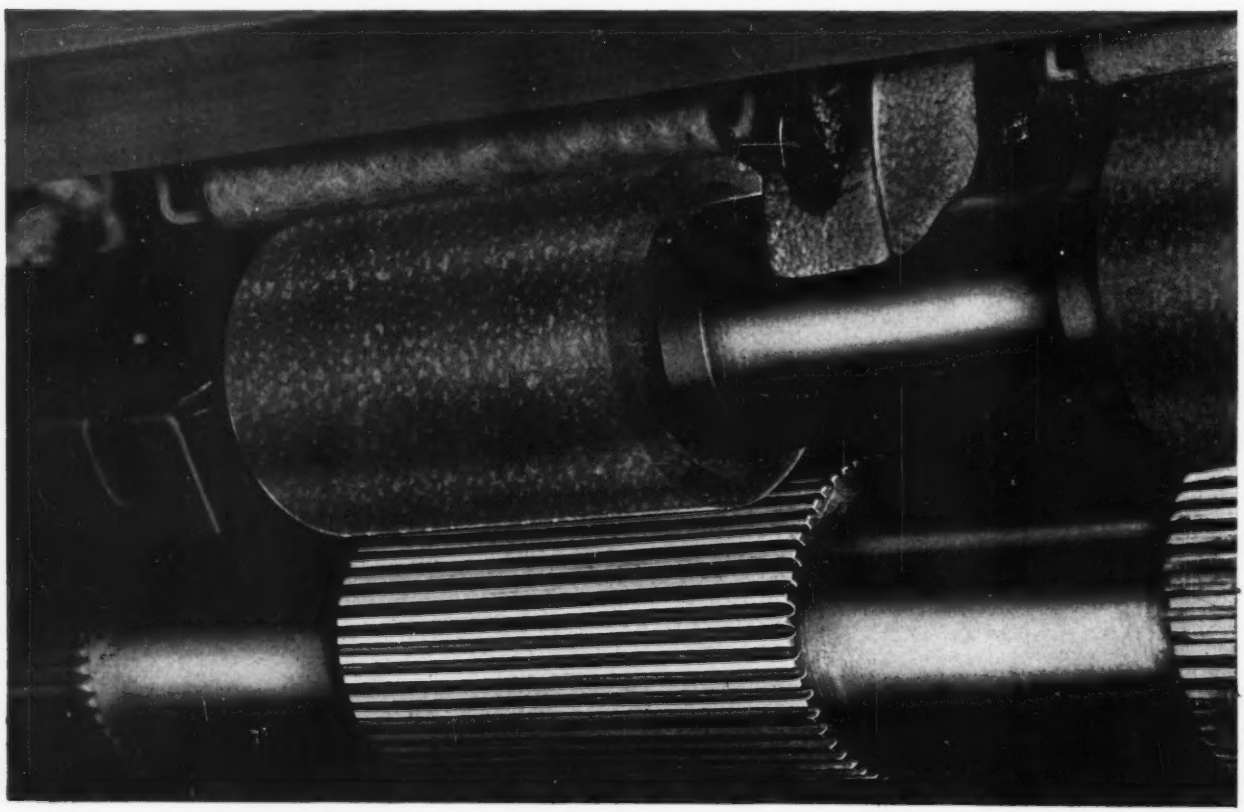
IBC, an exclusive development of the Dayton Textile Research Laboratory, is a non-eyebrowing ingredient which has been combined with a singularly effective blend of synthetic rubber. The combination sets up a mechanical and chemical action, producing just the right coefficient of friction to cause the short staple fibres to be picked up and tucked well back on the clearer board. Long staple fibres, the cause of troublesome eyebrows, are left in the yarn where they belong. The result is less eyebrowing, fewer lap-ups and ends down, less waste, and consistently higher quality yarn.

More than that, Dayco EW 465 Cots offer important savings all along the line. Because eyebrowing is minimized, fewer cleanings of the clearer board are required, thus saving time and labor. And you'll save money on Dayco Cots containing IBC because slicking and glazing is retarded. That means fewer buffings and longer service life.

These are money-saving advantages mill owners everywhere enjoy with Dayco Cots. Why not make a test on your own frames today. Test Daycos side by side with any other cots—on natural or synthetic yarns—we guarantee you'll be amazed at the results and pleased with the improved performance Daycos give you.

You'll find Dayco Cots will free you from eyebrowing as a major problem, reduce your operating costs through longer cot life, improve yarn quality and uniformity and give you a bonus in time and labor saved!

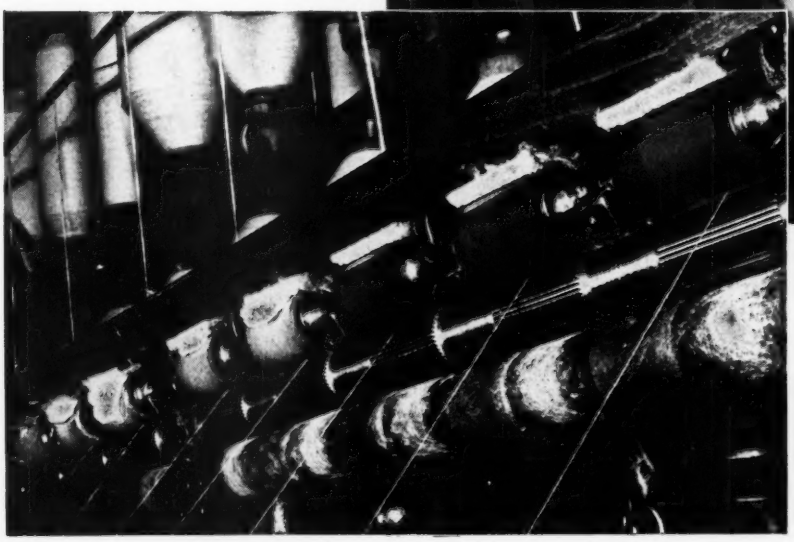
Call your Dayco representative without delay — he'll be glad to help you make a test of Dayco Cots at once. Or write direct to: Dayton Rubber Co., Textile Division, Dept. 34, Woodside Bldg., Greenville, S. C.



Eyebrowing as major problem!

excessive eyebrows!

Clearer board used with Dayco EW 465 Cots containing eyebrow controlling IBC. Minimum amount of waste collected is seen well back on the clearer board away from the eyebrowing position. Tests prove conclusively Dayco Cots combat eyebrowing, draft superior yarn and reduce overall costs. Make your next cot order Dayco EW 465 Cots with IBC.



Dayco Cots (upper right of the photo) tested on same frame, running identical yarn, for same length of time as ordinary cots at lower left of frame. Note complete lack of eyebrows on forward edge of clearer boards above Dayco Cots.

Dayton Rubber

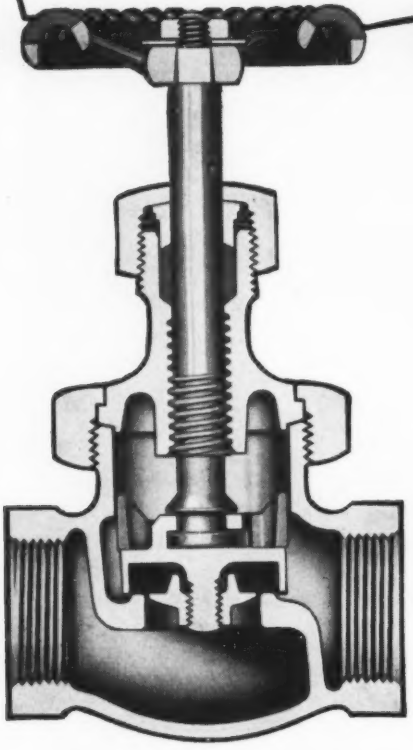
Since 1905

© D.R. 1954

Dayco and Dayton Thorobred Textile Products for Better Spinning and Weaving

Dayton Rubber Company, Textile Division, Woodside Building, Greenville, S. C.

A New Disc . . .
A "New" Valve



Crane No. 7 Brass Valves with quick-change composition disc

Save time, trouble, and money by standardizing on these Crane quality 150-Pound Valves. Simple to service. No big inventory of replacement parts. Just a few extra disc holders . . . a supply of composition discs. That's all you need for a wide variety of fluids . . . and an economical maintenance program.

The composition disc takes most of the normal wear—stands up well under ordinary usage—seats easily even on air and gas—absorbs foreign particles that might cause leakage in metal disc valves. When a leak shows up, make a "new" valve—with a new disc. Simply dismantle the union ring, lift out the trimmings, replace the disc holder assembly. Takes only a few minutes. Save the disc holder you removed—use it with the next replacement disc.

Rugged construction throughout. Sturdy bonnet joint, well reinforced by heavy union ring—can be repeatedly dismantled and reassembled. Get better acquainted with the Crane No. 7 line . . . for steam, hot and cold water, air, oil, gas, gasoline, and many other fluids.

GLOBES, ANGLES, AND CHECKS

Ask for folder AD-1682R—contains full facts on the No. 7 brass valve line and the companion No. 27 check. Your Crane Representative has a copy for you—or write direct to address below.

No. 7 Globe
Sizes ⅛ to 3-inch

No. 7 Angle
Sizes ⅛ to 3-inch

Specify No. 9 for Flanged Ends

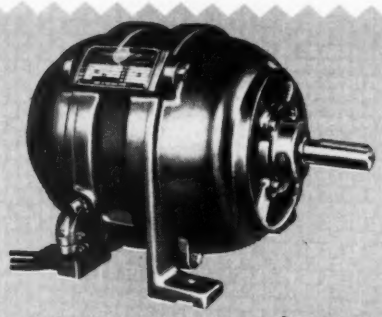
No. 27 Check
Sizes ¼ to 3-inch

THE BETTER QUALITY . . . BIGGER VALUE LINE . . . IN BRASS, STEEL, IRON

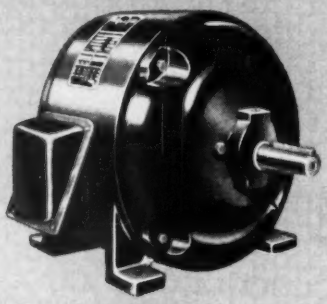
CRANE VALVES

CRANE CO., *General Offices:* 836 S. Michigan Ave., Chicago 5, Illinois
Branches and Wholesalers Serving All Industrial Areas

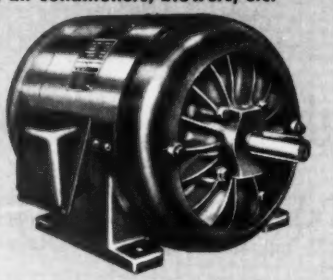
VALVES • FITTINGS • PIPE • PLUMBING • HEATING



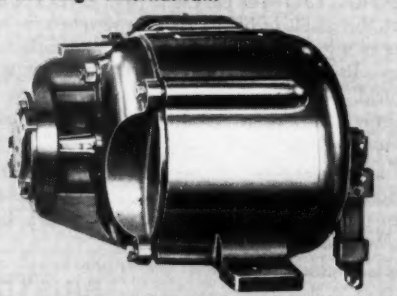
FOR LINT-FILLED ATMOSPHERES *specify* a DIEHL Type "DIT" Lint-Free Motor. In all mill operations where fly is present, the special construction of this motor assures protection and long life. Special features—rigid end cover construction and Hyatt roller bearing at pulley end.



FOR GENERAL MILL APPLICATION *specify* a DIEHL Type "DI" Standard Motor. An economical and versatile power plant, it is adaptable to compressors, pumps, conveyors, air conditioners, blowers, etc.



FOR FINISHING AND DYE PLANTS *specify* a DIEHL Type "DIF" Totally Enclosed Fan-Cooled Motor. Complete protection of the internal parts is provided by a full enclosure; high efficiency is aided by the cooling effect of the large external fan.



FOR DRIVING LOOMS *specify* a DIEHL Power Transmitter. The construction and "built-in" inertia of this integrated unit permit maximum weaving speeds with greatest operating efficiency.

for every textile application

SPECIFY A DIEHL MOTOR!

These are only a few of the many types of general and special-purpose motors DIEHL offers to satisfy every mill requirement. Over 68 years of motor building experience makes DIEHL motors your best buy!

Diehl

DIEHL MANUFACTURING COMPANY
Electrical Division of THE SINGER MANUFACTURING COMPANY
Finderne Plant, SOMERVILLE, N. J.

Please send me the following bulletins:

- ☐ New Type "D" Motor Bulletin No. TW-3304
- ☐ Consolidated Motor Catalog and Price List No. TW-3310
- ☐ Power Transmitter Bulletin No. TW-3126

Name_____

Company_____

Street_____

City_____ State_____

AVAILABLE IN A WIDE RANGE OF TYPES AND SIZES

No maintenance problems with this instrument!

In spite of all of the development work being done on automatic control instruments, the Bristol Series 500 Air-Operated Controller is still the most dependable and trouble-free — as proved by thousands of installations. And here's why:

It's the simplest to service. Only one adjustment with a ¼ in. wrench calibrates the control system. No other adjustment is needed. Control system can be completely disassembled and, after reassembly (even with replacement parts), can be *exactly calibrated by this one simple adjustment.*

It's completely reliable. One user states, "I'm amazed at the way this instrument performs day-in and day-out with little or no attention. We call it the work-horse controller in our plant. And our plant men like to use it, because it gives them the precision results they need without having to fuss with it".

Its settings are exactly reproducible. Reset rate, derivative time, and proportional band adjustments are accurately calibrated and exactly reproducible. You can instantly reproduce established settings without cut and try.

It uses the world-famous Bristol measuring elements. The measuring systems used in Bristol Series 500 Air-Operated Controllers for TEMPERATURE, PRESSURE, FLOW, VACUUM, DRAFT, ABSOLUTE PRESSURE, LIQUID LEVEL, pH, AND HUMIDITY are the result of 65 years of experience in instrument making and application in practically every industry. Bristol measuring elements are recognized the world over for their accuracy, simplicity, and reliability. There just aren't any better measuring elements made than Bristol's.

For more facts and figures about the Series 500 Air-Operated Controllers, write for free 32-page bulletin A120. The Bristol Company, 103 Bristol Road, Waterbury, Connecticut. 4.27

TRADE MARK
BRISTOL'S
REG U.S. PAT. OFFICE

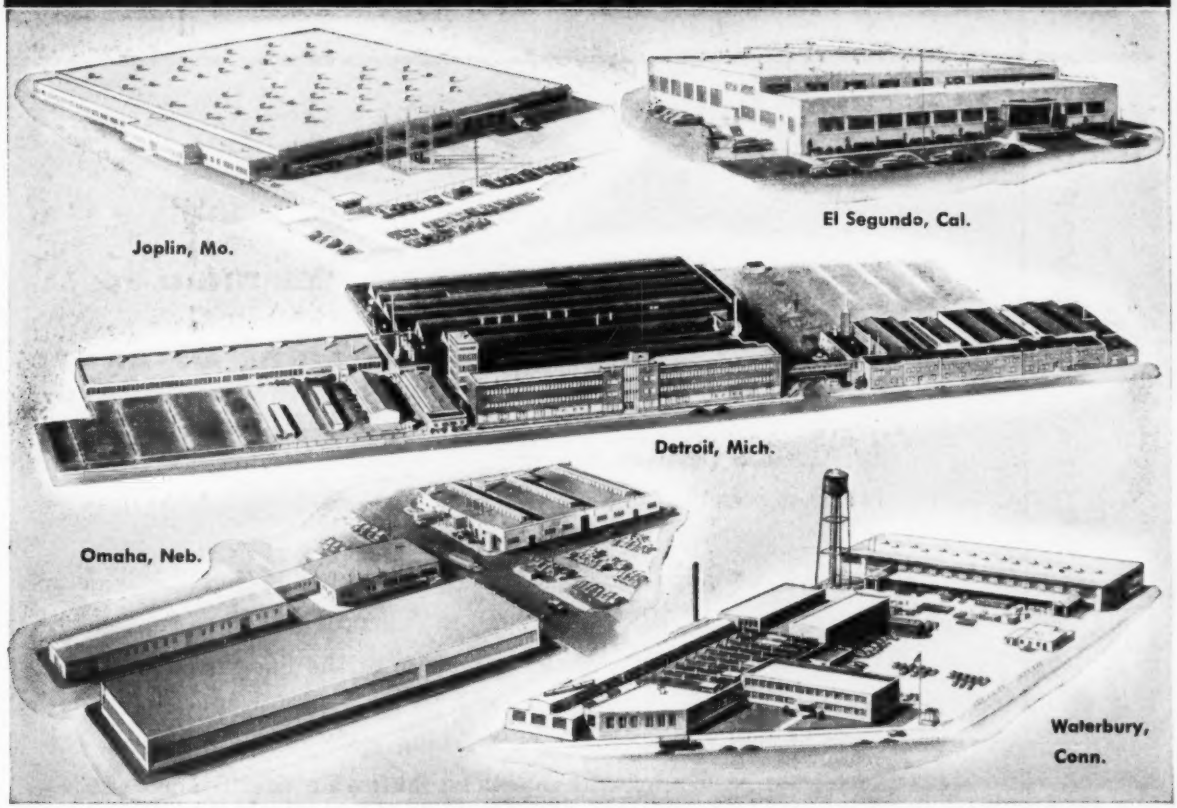
BRISTOL

POINTS THE WAY IN HUMAN-ENGINEERED INSTRUMENTATION

AUTOMATIC CONTROLLING, RECORDING AND TELEMETERING INSTRUMENTS

ONE OF A SERIES

You Get Many Benefits by Specifying VICKERS® Hydraulics



Unmatched Facilities

For Hydraulics Development, Design, Manufacturing and Application

In resources for research, design, development, manufacturing and application, Vickers is unmatched in the hydraulics field. The five plants shown above employ more than six thousand people. These plants are strategically located to best serve the diversified industries that use Vickers Hydraulics.

The large scope of these operations makes it economically practicable for Vickers to develop facilities that would be impossible under other circumstances. As a result, you get more for your money when you buy Vickers Hydraulic Equipment.

VICKERS
Incorporated
DIVISION OF THE SPERRY CORPORATION
1588 OAKMAN BLVD. • DETROIT 32, MICH.
Application Engineering Offices:
ATLANTA • CHICAGO AREA (Brookfield) • CINCINNATI • CLEVELAND • DETROIT • HOUSTON • LOS ANGELES AREA (El Segundo) • NEW YORK AREA (Summit, N. J.) • PHILADELPHIA AREA (Media) • PITTSBURGH AREA (Mt. Lebanon) • ROCHESTER • ROCKFORD • SAN FRANCISCO AREA (Berkeley) • SEATTLE • ST. LOUIS • TULSA • WASHINGTON • WORCESTER

6627-R.

ENGINEERS AND BUILDERS OF OIL HYDRAULIC EQUIPMENT SINCE 1921

 For more information, write direct or use Reader Service post card.

REPORT
#2

Celanese CORPORATION OF AMERICA, NEW YORK 16

THIS IS

A LABELLING PROGRAM DESIGNED TO IDENTIFY QUALITY FABRICS MADE OF ARNEL

In ARNEL Celanese has achieved a new triacetate fiber with the broadest possible wash-and-wear applications.

Precisely *because* ARNEL's potential is so great, Celanese is determined that ARNEL fabrics shall in fact provide the consumer with all those advantages which the nature of the fiber makes possible.

To that end Celanese is now working closely with mills and converters to perfect specific ARNEL† fabrics for specific end-uses.

These fabrics will be identified to the consumer by the distinctive ARNEL hang tag shown on the opposite page.

Only merchandise made of the fabrics that meet Celanese standards of quality will be permitted to carry this tag. Woven labels will also be available.

ARNEL will be supported with consistent and responsible advertising designed to *inform* the public of ARNEL's characteristics—accurately and without exaggeration.

Other developments on ARNEL will be reported promptly in these pages.

Celanese Corporation of America, New York 16.

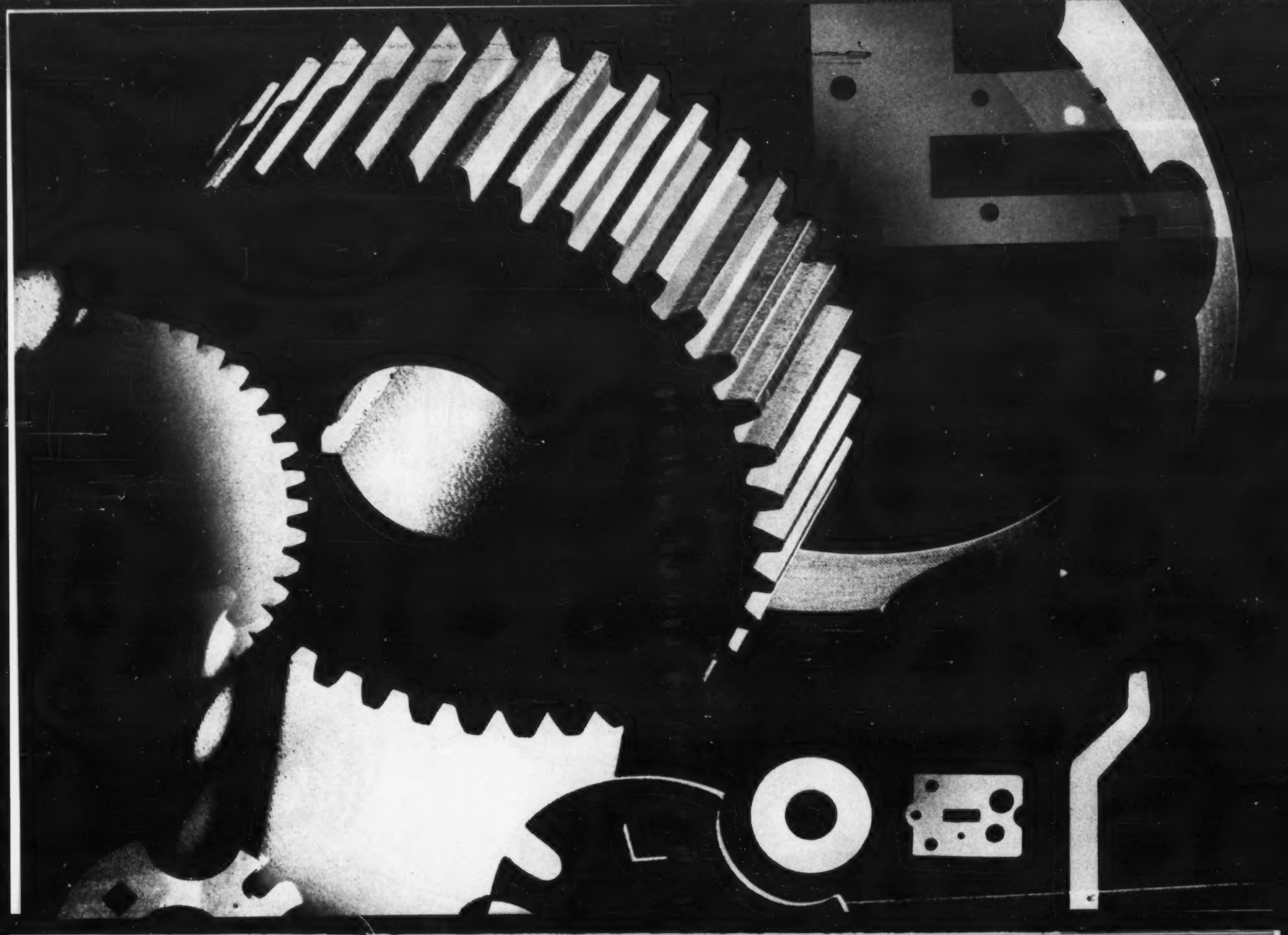
†Trademark

ARNEL†

TRIACETATE

the beautiful new carefree fiber

 For more information, write direct or use Reader Service post card.



DO YOU SEE AN OPPORTUNITY IN THESE DIVERSE APPLICATIONS OF **MICARTA?**

Today, MICARTA® is serving and saving in thousands of applications all across the industry. You'll find it extensively used in moving parts because MICARTA resists impact, soaks up vibration and muffles noise. You'll see it widely used in structural parts because MICARTA gives strength and rigidity while weighing only half as much as aluminum. You'll spot it in many places employed as an electrical insulator. You'll even come across it in piping systems because MICARTA fights corrosion, repels moisture, endures heat and cold.

These and many other serviceable qualities of this amazing plastic may hold the answer to your problem. It will pay you to investigate. Simply use the coupon below. J-06575

MICARTA IS SERVING ALL INDUSTRIES

AVIATION: Pulleys, instrument panels, structural members

MARINE: Propeller shaft bearings, bushings, piston rings

STEEL: Roll-neck bearings, hold down and upcoiler rolls

TEXTILE: Spinning buckets, shuttles, spools, bobbins, gears

CHEMICAL: Bubble caps, plating barrels, tubing, valve blocks

ELECTRICAL: Coil forms, terminal blocks, panels, name plates

YOU CAN BE SURE...IF IT'S Westinghouse

Westinghouse Electric Corporation
Micarta Division
Trafford, Pa.

Attention: L. A. Pedley
Sir: (Please check one)

☐ Please have your representative call
☐ Please send me complete facts on Micarta

Name_____ Company_____

Address_____

City_____ Zone_____ State_____

TW-12-54

micarta® IS BASIC

MICRO SWITCH Precision Switches

A PRINCIPLE OF GOOD DESIGN

MICRO SWITCH products are used

- as trumpet stops on combing heads
- as carriage movement controls
- to prevent needle breakage
- to automatically eject unfilled quills
- as thread breakage detectors
- to control cloth position as web unrolls
- to stop bobbin winding when bobbin fills
- to control tension on cloth measuring machine
- to stop motor when gear box is opened
- to control position of pressure roll on warper
- to position clamps on cloth stretching machine
- as thread run out detector on loom shuttles
- as selvedge build-up control
- as fabric thickness detectors
- and many other textile applications

Hundreds of Mill Operators are saving important money with MICRO SWITCH products

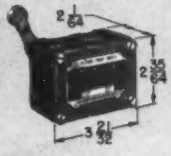
● Thousands of textile machines have been given new life—made more automatic, safer and more productive—by the installation of MICRO SWITCH precision switches.

These quick, sure-acting electrical controls are rapidly being used to replace mechanical stop motion devices which are often slower and less dependable.

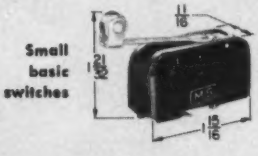
Shown here are just a few of the switches which mill operators have found particularly adaptable to use with textile machinery. Many are ruggedly housed and sealed against the effects of dirt, dust, lint or humid atmospheres.

You are invited to get in touch with the nearest MICRO SWITCH branch for advice on the switch most suitable to your requirement. Switches may be purchased from the MICRO SWITCH distributor near you. Look in the yellow pages of your phone book under "switches, electric."

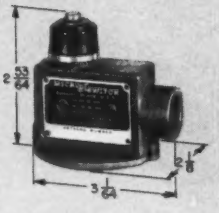
These Switches have put new life in textile machines:



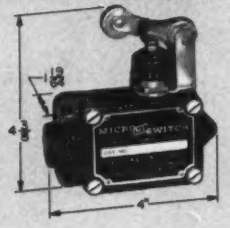
Explosion- and splash-proof switches



Small basic switches



Die cast enclosed switches with sealed plungers



Die cast enclosed switches with roller actuator

Heavy duty limit switches

Glass enclosed mercury switches

MICRO SWITCH provides a complete line of extremely reliable, small-size, high-capacity, snap-action precision switches and mercury switches. Available in a wide variety of sizes, shapes, weights, actuators and electrical characteristics. For all types of electrical controls.

MICRO SWITCH

A DIVISION OF MINNEAPOLIS-HONEYWELL REGULATOR COMPANY

FREEPORT, ILLINOIS

take advantage of

LUNKENHEIMER *Quality*

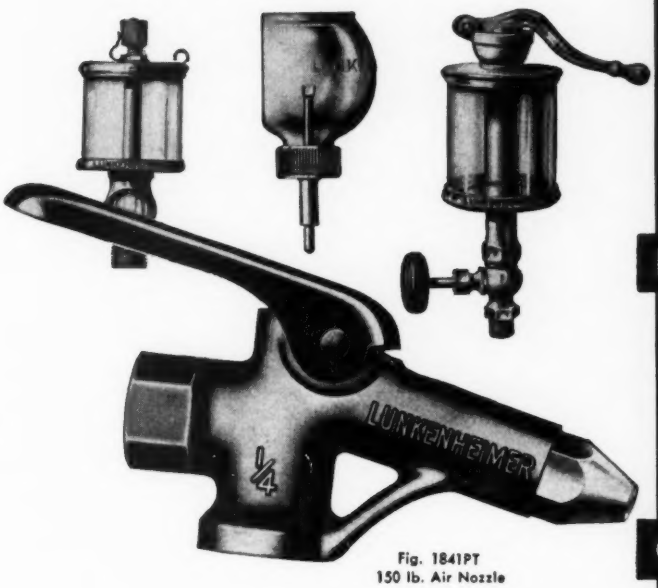
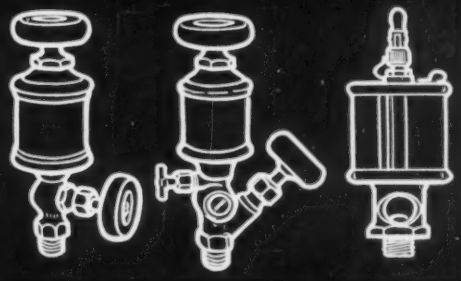
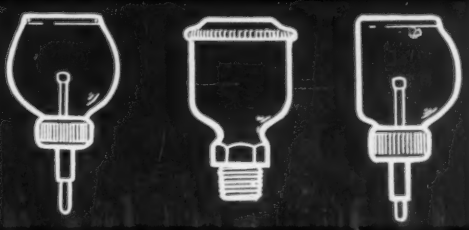


Fig. 1841PT
150 lb. Air Nozzle

AIR DEVICES



LUBRICATORS



OIL AND GREASE CUPS

Yes, Lunkenheimer produces the highest quality Engineering Devices, as well as the world's finest valves. And today — with the high cost of maintenance growing still higher—you NEED the extra margin of quality in design and workmanship that has made Lunkenheimer products world-famous.

Make your expensive machinery last longer with Lunkenheimer Lubricating Devices. Cut the high cost of compressed air leaks with Lunkenheimer Air Nozzles and Cocks. Keep accurate check on your storage tanks and reservoirs with Lunkenheimer Liquid Gauges. All these carefully designed, carefully cast, carefully machined bronze accessories assure *longer* wear with *less* repair. The complete Lunkenheimer Line includes oil cups, grease cups, lubricators, cocks, nozzles, liquid gauges, and whistles. See your Lunkenheimer Distributor, or write for literature to The Lunkenheimer Co., Box 360K, Cincinnati 14, Ohio.

LUNKENHEIMER
L
QUALITY

BRONZE • IRON • STEEL

The Cost of a Lunkenheimer Valve Gets Smaller and Smaller and Smaller with Every Passing Year of Dependable Service.

LUNKENHEIMER®

THE ONE *Great* NAME IN VALVES

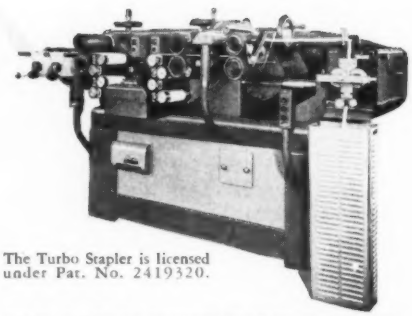
 For more information, write direct or use Reader Service post card.

Here's what one big spinner says about his yarns made from Turbo Stapler-converted Orlon*. "We're working overtime to catch up on our backlog of orders . . . it's the easiest selling yarn we've ever spun."

No wonder there are repeat orders, for these yarns have perfect balance between loft and bulk, with evenness of fibers never before available. They knit up with a "hand" that has built-in sales appeal. Incorporating the patented Perlok Process, Stapler fibers have more and softer ends . . . fibers are finer . . . bulk is greater through a high stretch ratio for higher contraction.

With the compact, engineer-designed Stapler you convert modern fibers in a modern way. It is the simplest, quickest, easiest, cheapest way to produce synthetic yarns of top quality. And, a Stapler puts *you* in control, because with it you can change everything about a fiber except its chemical composition. Why not find out how you can improve your competitive position — get the Turbo Stapler facts today. If you want to *see* what it can do we'll be glad to arrange a demonstration.

*duPont T.M. for acrylic fiber.



The Turbo Stapler is licensed under Pat. No. 2419320.

FOR YARNS WITH HIGHER BULK • SOFTER HAND • HIGHER YIELD • EVENNESS • GREATER SALES APPEAL • MORE STRENGTH . . . BEGIN WITH A TURBO STAPLER

TURBO
SINCE 1929

TURBO MACHINE COMPANY, LANSDALE, PENNA., U. S. A.

Manufacturers of precision hosiery finishing machinery, also Crimpers, Crimp Setting Equipment, and Tow Processing Equipment

Next Steps in Atomic Progress... A Challenge to American Industry

The purpose of this editorial is to throw light on the significance for American industry of recent changes in the statutes that control the development of atomic energy.

The need for clear light on the meaning of this new legislation is made more urgent by the political confusion and distortion that marked its course through Congress. The politically inspired charges of "giveaway" that delayed its passage—charges that were almost totally unrelated to the legislation itself—helped to obscure the vital importance of the step finally taken by Congress.

In sober, post-Congressional fact, the principal significance of the new atomic legislation is that it extends to private enterprise responsibility for the development of peaceful uses of atomic energy, whereas heretofore this responsibility has rested in a tight government monopoly. **And this extension is made on terms that emphasize the responsibility far more than they open any opportunity for economic gain in fulfilling it.** The revised Atomic Energy Act provides that:

1. Industry may now own and operate its own nuclear reactors, under license from the Atomic Energy Commission. And it may build and sell nuclear reactors for export.

2. Industry may use—but not own—nuclear materials at the discretion of the Atomic Energy Commission.

3. The Atomic Energy Commission will make available to industry scientific knowledge that may be useful in developing peaceful applications of nuclear energy.

4. For the first time, industry will have the right to patent inventions in the field of nonmilitary nuclear energy. However, "basic" discoveries must be made available to all companies in the field for a period of five years, after which they, too, will revert to normal patent status.

Two Kinds of Know-How

These provisions, despite the imposed limitations, represent the first positive step toward development of nuclear energy for peaceful applications in the United States. Potentially useful knowledge, previously locked in the minds of government scientists, will now be available to all those who are willing and able to put it to work for the good of mankind.

The advantages to be gained from enlisting the talents of American industry in the development of peaceful atomic applications are imposing. As *The* (London) *Economist*, Europe's leading economic journal, recently remarked, "The atomic scientists are in a position to surmise how atomic energy can be applied... but they lack the specialized knowledge of engineering design and operating technique just as industry itself lacks atomic knowledge." Now the engineers of private industry need no longer lack the atomic knowledge, and there is granted to them at least a restricted freedom to apply it to the solution of their engineering and operating problems.

But the new opportunity for private industry to find constructive uses for the science of nucleonics carries with it a grave responsibility. These uses must be so developed that they will benefit the people of all the free nations. It is essential that the United States, which pioneered in developing lethal uses for atomic fission, demonstrate to the world our paramount interest in its peaceful application. It would be a moral set-back to the free world almost beyond calculation if the Communists should be able to offer to the poorer nations of the world the benefit of low cost atomic power — provided by Communist technicians — while we concentrate primarily on building our stockpile of atomic and hydrogen bombs.

Race For a Peaceful Victory

Most of the experts are agreed that it may be many years — perhaps ten, fifteen or more — before the cost of electricity from atomic fission can be reduced to a level that will make it competitive with conventionally produced power in most regions of the United States. But most of the world is not nearly so fortunate as we are in power resources. Electricity, even at a cost far higher than the average that prevails in the United States, would be a blessing in many countries, and the nation that provides the technology to bring it into being will score a great moral victory.

The useful potential of nuclear energy is not restricted to the generation of electric power — although twenty years from now this use will be highly important to the power industry of the United States. Even with the limited research that has been done in this field thus far, the use of radioisotopes — the radioactive products of atomic reactors — is saving American industry an estimated $100 million a year. Commissioner Campbell of the AEC, who made this estimate, believes that these savings may well reach $1 billion a year within ten years. Radioisotopes are already at work in industries ranging all the way from paper manufacturing, where they measure paper thickness, to pipeline transportation, where they mark the dividing lines between shipments of different products (at an estimated saving of $500,000 a year). Medical applications of these same radioisotopes hold promise of longer and more comfortable lives for those who are stricken by cancer and other diseases.

Above All a Challenge

The new Atomic Energy Act is a crucial stride toward the day when all these benefits — and undoubtedly others not yet revealed by research — will be realized. But it is a step that is essentially permissive. It still leaves it to private industry for the most part to decide what is to be done and how soon.

The new act is thus, above all, a challenge. It confers on private industry the responsibility to assume a leading role in the development of peaceful uses for nuclear energy, a step long urged by NUCLEONICS, a McGraw-Hill magazine devoted to atomic energy. To achieve a success in this task that will measure up to the requirement of the national interest, this development must command all the resources and ingenuity that private enterprise can apply — and do so without promise of glittering prizes surely to be won. **But now that the responsibility has been defined and the challenge offered, American industry will, we believe, measure up to its grave and mighty import.**

This message is one of a series prepared by the McGraw-Hill Department of Economics to help increase public knowledge and understanding of important nationwide developments that are of particular concern to the business and professional community served by our industrial and technical publications.

Permission is freely extended to newspapers, groups or individuals to quote or reprint all or parts of the text.

Donald C. McGraw

PRESIDENT

McGRAW-HILL PUBLISHING COMPANY, INC.

Textile World
December, 1954 • Vol. 104-No. 12

Responsibilities of a SECOND HAND

By MARCUS C. GROSS

Every mill man recognizes the key importance of the departmental second hand. Production, quality, costs, waste, supervision, and worker attitudes depend to a large extent on the caliber of these representatives of management who are in constant touch with the workers.

Since nearly all mill men cut their teeth in supervision on a second hand's job, it is vital that new second hands know what is expected of them, what they must do, and what they cannot do.

The second hand's instruction manual presented here is in use in one mill. It answers two vital questions—

- What are the second hand's responsibilities?
- What are the limits of the second hand's authority?

The manual is written specifically for spinning-room second hands, but similar manuals would be useful for second hands in other mill departments.

You may or may not agree with some of the things in this manual, which was drawn up for one particular mill; but there is one thing certain: second hands in this mill know what is expected of them.—EDITOR.

As a supervisor, you are a front-line representative of Magnolia Mfg. Co. On you depends the flow of production, the upkeep of quality and a constant search for better quality, and leadership.

You must be alert to protect the interests of your company, especially in your department. Company interests include protecting employees from safety hazards, proper instruction and adaptation to our work methods, control of waste, a daily check on maintenance work, keeping records vital to your department, and cooperation with all department supervisors.

Each department is a separate processing unit, but all departments are closely integrated. You are a supervisor in the spinning department, but that doesn't mean you have to lack interest in other departments. A good relationship with your co-supervisors insures a closer bond of understanding, a desire to assist rather than to pass the buck.

But the control of your department is paramount. You are not a spinner, doffer, cleaner, oiler, personnel man, or clerk; but you must know these jobs, how they are done, and how to control them. Above all, you must see that they are done right.

As a spinning-department second hand, your activities will bring you into contact with every employee in your department. You should know every employee, his ability, the effort he displays, his weaknesses, the quality of his work, and his productive capacity. Not only should you know his performance, but you should also keep a record of it.

The rest of this manual contains a breakdown of the important details of your responsibilities. Certain schedules are performed daily and must be strictly followed; all schedules are your responsibility to be carried out. Reports to the overseer must be up to date and accurate.

From time to time, consult your manual as a refresher. Above all, remember that Magnolia quality and production rest squarely in your hands and brains. It is your company, and the company depends on your loyalty and knowledge.

Supervision

Every frame and every employee in your department is your responsibility. The productive capacity of frames and employees should be maintained at the highest standard possible. The quality of the production must be checked daily. Your responsibility includes, in addition to the spinning frames, all other machines in your department and the employees who operate them.

Absenteeism

Absenteeism is a perennial headache in any mill. On occasion, it will be a problem in your department; and skillful handling will be necessary to reduce it. Reports on absenteeism must be made daily. Make your reports accurate; the absentee record of every employee is important. The record is used in connection with insurance, wages, and vacation pay, which are matters of vital concern to the employees as well as to you. Try to eliminate unnecessary absenteeism.

Remember, the company has a rule that any employee who is absent a single day without permission or who has not called the personnel department on the day of such absence must report to the overseer's office before starting to work. Rules and regulations covering the many kinds of absenteeism, permissible or otherwise, are available at the overseer's office.

Maintenance Reports

Fire-equipment inspection reports are made out weekly and turned into the overseer's office for checking before being sent to the safety engineer. Lubrication of all running parts is important, and constant surveillance of this function is necessary. Maintenance equipment is expensive, and proper care and upkeep is your responsibility. Check the section-hand's schedule with section hands daily. Section hands report to you.

Payrolls

Payroll entries are made by you and only by you. Unless otherwise directed, the payroll remains in your possession unless called for by the payroll office or your overseer. Do not let an unauthorized employee handle the payroll sheets. And be sure that all entries are correct; no employee

is entitled to more than he earns. Falsification of a payroll is a serious matter.

Hourly rates, piece rates, sides tended, and daily and total hours worked must be clearly printed. If you have any questions regarding payrolls, contact the paymaster or your overseer.

Relations With Personnel Department

You may be called on by the personnel department to answer questions concerning employees working in your department. Be sure you have your facts. Information on employees that you deliver to the overseer's office is carefully checked and placed in the files under the employees' names. The personnel department may call for these records on occasion, but the records are always important.

If you cannot answer questions from employees concerning insurance, income taxes, social security, or personal problems directly or indirectly connected with the work, to their satisfaction (use discretion on personal problems), always refer the employees to the personnel office on their own time unless otherwise directed.

Union Relations

Study the union contract closely. The contract explicitly states the conditions under which we operate, and other conditions established by precedence or agreements are binding upon your department. In all cases of union grievances in your department, contact your overseer at once.

Each department has an appointed steward and a grievance committee. In all dealings with the steward, report to the overseer. Each employee has a right to see his steward if he has a grievance, but he must first contact you about the grievance. In turn, the steward has the right to contact you in relation to grievances. If you cannot settle the grievance at your level, the steward has the right to bring the grievance to the attention of the overseer. In every case, no employee has the right to leave the department or room he is working in without express permission from the supervisor in charge. You must be present at all grievance hearings in the overseer's office.

Notify the steward in advance of all discharges. Seniority shall prevail in lay-offs unless other agreements, such as rotative schedules, have been made. In case of lay-offs, the steward is the last employee to be laid off unless this right is voluntarily waived.

Nonunion employees of the department will receive exactly the same benefits and treatment as union employees. There shall be no discrimination, partiality, bias, or intimidation of any employee regardless of his affiliations. Be fair, be firm, be right.

Technical Knowledge

Each second hand in the spinning department must have a knowledge of spinning: drafts, twist, gearings, etc. A complete course on spinning as it applies to our mill is available. Study this course until you are completely familiar with our machines and methods.

Reports to Overseer

Daily early-morning reports must be made to the overseer. These reports concern frames running, personnel in or out, maintenance reports, and general reports on anything that pertains to your department. Practically all layouts and daily scheduling for all shifts are discussed and determined after the morning reports. Anything that pertains to your department immediately becomes your responsibility to execute.

Patrol

Your department must be patrolled and kept under constant surveillance. Although some clerical work is necessary, do not fall into the habit of spending too much time in your office or behind your desk. For you, "on the job" means patrolling.

Learners

Learners are one of our chief assets, and they are valuable to the future of our company. They must be handled carefully and patiently, and they must be taught correctly. A preparation manual is available for preparing our learners. Study it carefully. All learners must be given a fair trial.

Waste

Personally contact every spinner in your department and get across the following points concerning waste:

1. Run all roving until the last layer has almost run out.
2. Piece ends up at once.
3. Do not throw roving, scavenger-roll, or clearer waste on the floor.
4. Put all waste in the proper containers.
5. Push all bobbins down firmly on the spindle clutch. If they do not go down easily, throw them out to be reamed.
6. Handle all yarn carefully.
7. Handle all roving carefully. Piece ends and roving run-outs with the shortest tails possible.
8. Report any unusual frame condition at once.

Enforce strict discipline concerning the waste problem. Thousands of dollars a year are wasted that could be saved. Remember, if yarn can be made into cloth, it is not waste.

Good Housekeeping

"A place for everything and everything in its place" is a good slogan. Your department must be kept clean and orderly. A clean department reflects the quality yarn we produce, and employees work better and more productively in a clean department.

A daily inspection will be made by the overseer, accompanied by second hands. Watch for: dirty machines (inspect the undercarriage), overhead motors and wiring, lamp shades and socket pull-strings, top creels (no double rows of roving), paper on sills and floors, shoes on creels, shoes on top of closets, dirty and disorderly work benches, disorderly spare-floor, dirty stairways and halls, fire pails not full, clothing scattered around the department. These problems are just a few of the problems you will have to eliminate to maintain good housekeeping.

Supplies

Supplies cost money. Your job is to see that the supplies in your department are kept rigidly under control. Too often, brushes, brooms, mops, toilet paper, brass hooks, etc. are taken for granted, with little or no concern given to their value. These items are supplied by the company at a large annual cost. Check the supplies daily, and allow no one to remove them without your permission. Anyone guilty of needless waste of supplies or materials should be strictly disciplined. Remember that everything costs money. Where can you save?

Parts Stock

Parts stock in the spinning department includes all machine parts for every machine under spinning-department control. Like cleaning supplies, these parts cost our company a large sum of money. Strict maintenance supervision will visibly reduce this cost; lack of lubrication of all moving parts, for one thing, will increase the cost. Your responsibility for maintenance costs is of great importance.

Schedules

Every task in the spinning department is scheduled on weekly layouts. Every task must run according to schedule, except where mechanical failure or other factors beyond your control impede it. Make every effort to overcome any factor that slows the schedule. Every schedule shall receive a daily check-up.

Assignments

No employee can be assigned to another job without approval from the overseer. Temporary assignments can be made where absenteeism has caused a temporary vacancy; but on all requests for permanent transfer, refer the employee to the overseer.

Promotions

Promotions will be made within the department, provided the talent, skill, and other qualities are available. Do not hold back a promising employee if there is an opening. Recommend employees in your department without partiality. Only merit should count.

Discharges

Every employee recommended for discharge is entitled to a hearing: (1) by the overseer, and (2) by the personnel department. A discharge is a serious matter; do not recommend a discharge unless you are absolutely sure of your facts. Discrimination against any employee will not be tolerated.

Other Responsibilities

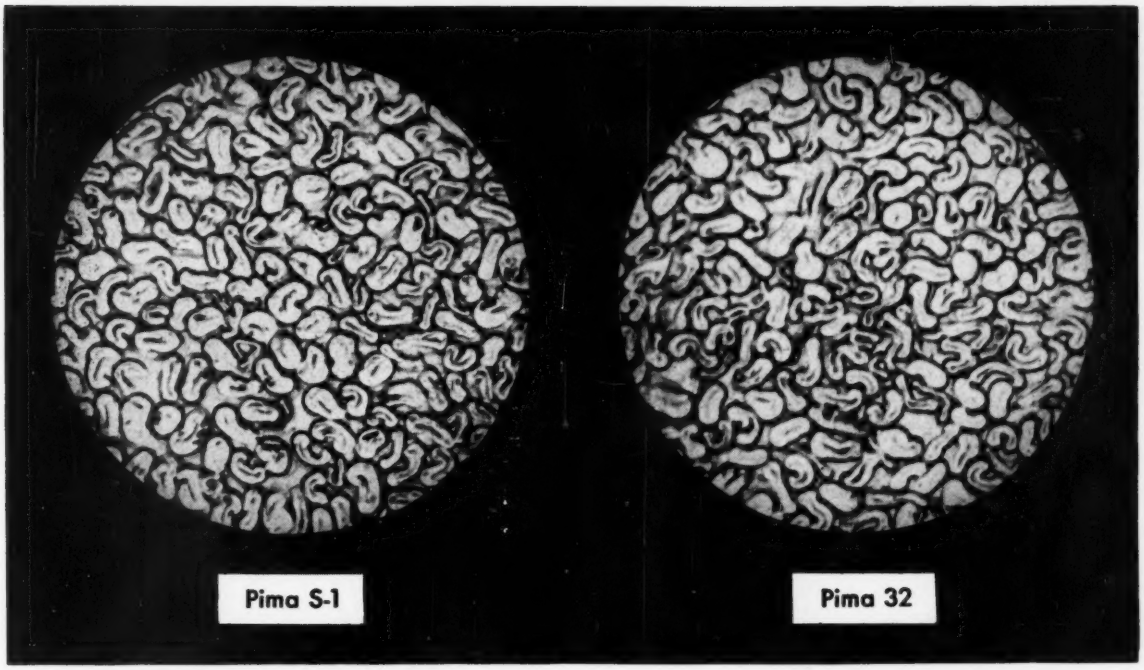
Instruct every employee to use safe methods and wear safe clothing.

Occasionally, permission may be granted to an employee to go out early. But such employees can be paid only for time worked.

Spinners are not allowed to use knives in removing laps. Section hands will remove any bad laps that the spinners cannot remove with a hook.

Roving waste must not be cut.

Your job is not easy. A supervisor can never be sure that his job cannot be done better in the future.



PIMA S-1—
A New American Egyptian Cotton

► Better mill performance can be expected from the new Pima S-1 variety of American Egyptian cotton

► Because of its success, the new variety is replacing Pima 32 this year in Arizona

By P. M. THOMAS, Editor, TEXTILE WORLD

PIMA S-1, a new variety of American Egyptian cotton, is moving into commercial importance with the 1954 crop. This year, it is practically, if not completely, replacing Pima 32 in Arizona.

Used exclusively for fine combed yarns, Pima S-1 in tests last year showed superiority over Pima 32 in manufacturing performance. In particular, the new cotton showed improvements in mill waste, neps, and yarn appearance. Comparisons were:

	Pima S-1	Pima 32
Picker, card, and comber waste	24.4%	27.4%
Neps (100 sq. ins. web)	7	11
Yarn appearance		
Average index	113	103.5
Rating	Good	Average

How the Fibers Compare

USDA tests on the two Pima varieties grown in Arizona last year showed the following comparisons in fiber properties in average of early, midseason, and late harvesting:

	Pima S-1	Pima 32
Grade	2.3	3.1
Staple length (ins.)	1 14/32	1 15/32
Fiber length (ins.)	1.44	1.53
Coef. of variation (%)	29	34.3
Fineness (micrograms per inch)	3.3	3.3
Maturity index	78	73
Strength (1,000 psi.)	101	106
Nonlint content (%)	2.9	3.7
Sugar content (%)	0.07	0.17

As can be seen from these average test results, Pima S-1 cotton differs most significantly from Pima 32 in that it is more uniform in length, is more mature, and has less foreign matter in it. The better grade and lower nonlint content, of course, result more from growing and harvesting conditions than from the difference in varieties of cotton.

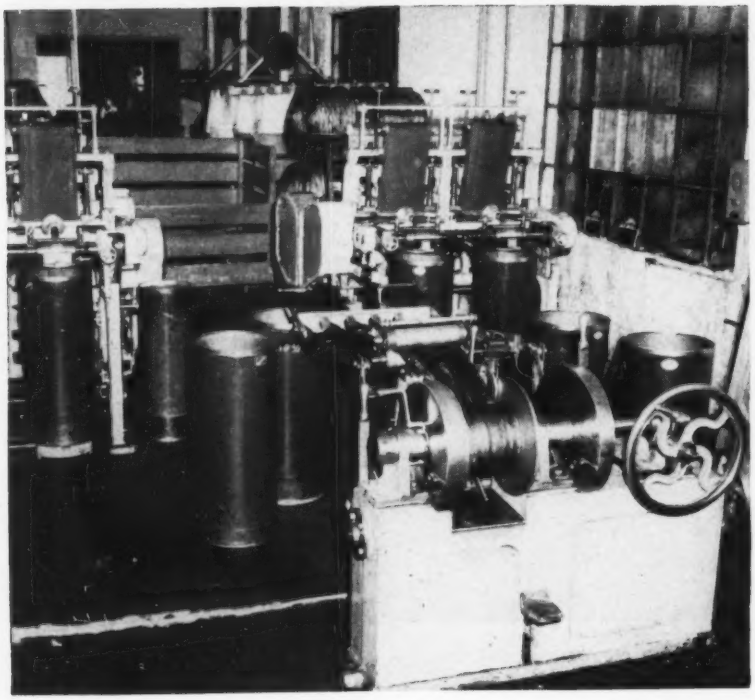
How the Cottons Perform

Results of mill-processing tests showed these comparisons for the two cottons grown in Arizona (Texas Pima 32 excluded):

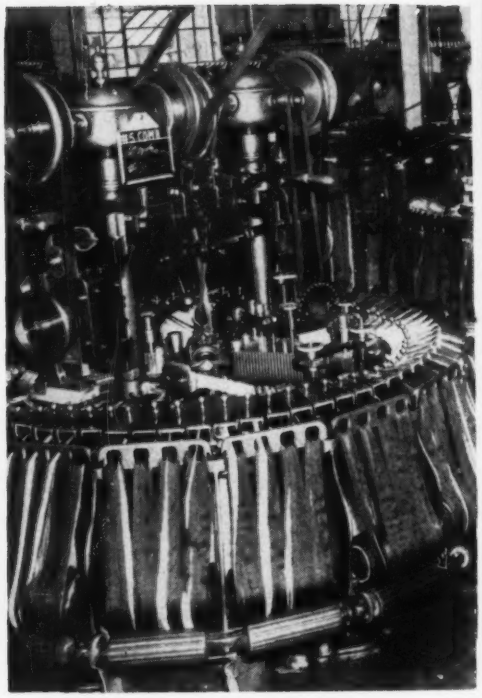
	Pima S-1	Pima 32
Picker and card waste (%)	10.	11.8
Comber waste (%)	14.4	15.9
Neps (100 sq. ins. web)	7	8.7
Yarn skein strength (lbs.)		
50s	72.7	72
80s	41.3	40
Index	107	102
Break-factor constant	11.	13
Yarn-appearance grade		
50s	C+ to B+	C+ to B
80s	C+ to B+	C+ to B
Index	113	106

In these tests, a 9-oz.-per-yd. picker lap was carded at 3½ lbs. per hr. into 36-grs.-per-yd. sliver. Combing was done at 13 lbs. per hr. for a 40-grs.-per-yd. sliver.

Based on fiber and spinning data issued by the Cotton Div., Agricultural Marketing Service, U. S. Dept. of Agriculture. USDA photomicrographs by Southern Regional Research Laboratory, Southern Utilization Research Branch, Agricultural Research Service.



NEW PREPARER GILL BOXES allowed a 7% increase in weight of comb end. One man takes care of these two preparers and the punch box in the foreground.



NOBLE COMBS were standardized in specifications, settings, and speeds. Spring bottoms were

How a TOP MAKER Modernized

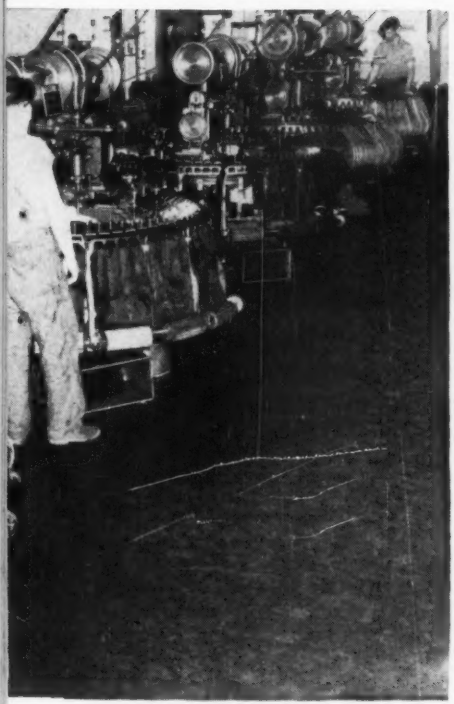
PIN DRAFTERS or gill reducers were installed as the second finishing operation. Short-term irregularity was reduced 10%. One man handles two machines, wraps, and weighs top.

Problem:
Make a lighter top with a lower coefficient of variation

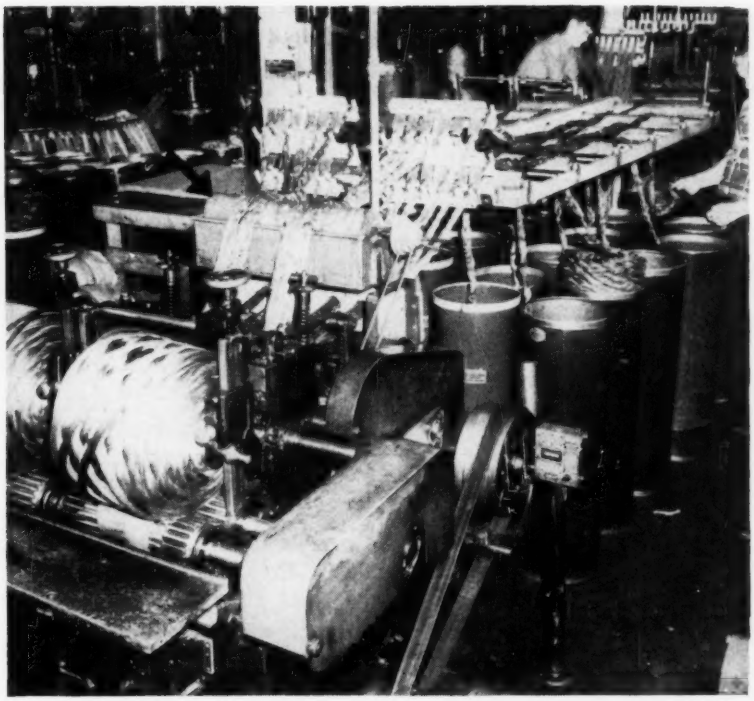
Solution:
Buy new machinery, revise workloads, install an incentive system

Results:
Workloads up 50%
Gross wages up 15%
Machine efficiency up 10%
Production up 17 to 50%
Evenness improved
Top weight reduced from 260 to 160 grains per yard

By FRED ANDERSON
Model Dye Works (Canada) Ltd.



put in all comb cans. One man handles three combs and picks up noils.



FIRST FINISHERS have new can creels and stop motions. Note the cylinder-type conditioner (arrow) that is now standard. One man tends two of these machines, weighs, and balances.

AS SHORT-CUT SYSTEMS of worsted spinning have met with increasing acceptance, requirements for top have changed. The spinner now wants a lighter top with better evenness. Here's how we improved our mill to meet these specifications.

New Machinery Came First

At the second-finisher operation, we put in pin drafters or gill reducers to increase production and improve quality. As the accompanying charts show, we'd had trouble. When we lightened up to 160 grains per yard with our old intersecting gill boxes, we got high long-term irregularity because doublings were reduced. Our heavy top (260 grains per yard) had high short-term irregularity. With the new machines, both types of irregularity are satisfactory.

We put Holdsworth can creels and Acumeter stop motions on our first-finisher gill boxes. The balling heads on these machines are big floor-space savers on between-process material.

The conditioning devices on all machines were changed from the drip type to the contact type. The water supply is piped to the trough in which the cylinder runs. Tops dyed in oil don't need more oil after recombing, and this conditioning system works equally well with or without oil.

Combs Were Modernized

Comb-circle specifications, settings, and speeds were standardized.

Heavy-duty Boldy punch boxes were installed to increase comb-ball weight. (Now we can get a 26-lb. ball of 64s if necessary.) We put on ends-down stop motion and yardage knock-offs. Some of our lots are as small as 100 lbs., and all comb balls must be the same weight.

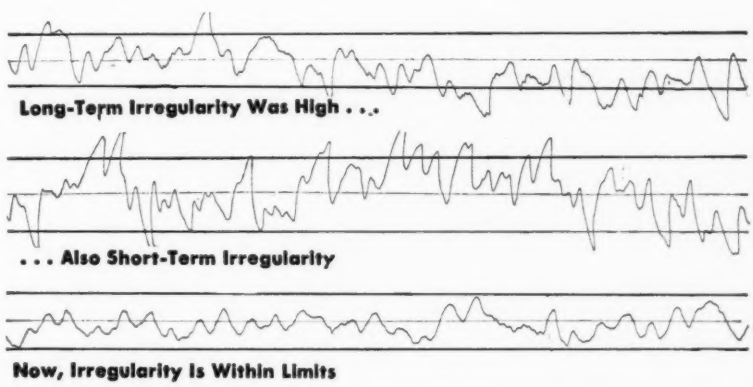
New preparer gill boxes (Prince-Smith intersecting) were installed to allow a 7% increase in the weight of the comb end.

Spring bottoms were put in all comb cans to minimize the difference in tension between full and empty cans at the first finisher.

Rpm. counters or hank counters were put on all machines.

Workloads Were Reassessed

Machine efficiencies fluctuate extensively in our mill because our lots vary so much in size and quality; so experi-



IRREGULARITY of 64s dyed wool top was high, both long term and short term. Now, coefficient of variation averages 3.1%, and average percent unevenness is down 10%.

Quality Check for Noble Combs

Operator J. SMITH Week ending Oct. 29, 1954

Machine Nos. 4, 5, & 6 Shift #2

Items	Points	Rated by M	T	W	T	F
1. Operator attentiveness	2	2	2	1	2	1
2. Right method of piecing	4	4	4	4	4	4
3. Noil percentage Within 1/4% of standard Within 1/2% of standard Within 3/4% of standard Within 1% of standard Off standard by more than 1%	8 6 4 2 0	6	8	8	7	4
4. Machine operating properly	2	2	2	1	2	2
5. Cans filled properly	2	1	2	2	2	2
6. Cleanliness of machine:						
Dabber motion	2	2	2	2	2	2
Aprons, shafts, draw of roll ball roll spool, box lids, frame and guards	2	2	2	2	2	2
Coiler parts	2	2	2	2	2	2
7. Cleanliness of floor and lights	2	2	2	2	2	2
8. Removing noils in time	2	1	1	1	2	1
9. No repairs due to carelessness, and aprons in good condition	2	2	2	2	2	2
Remarks:	Daily total	26	29	27	29	24

Total points for week 135

at 0.33 cents

Bonus: $0.45 per hr.

COMB CHECKSHEET offers 30 possible points a day for good work. Noil percentage is averaged for the three combs each man has. In a short week, total points are fewer but the value per point is higher.

Quality Check for Finisher Gill Boxes

Operator W. MILLER Week ending Oct 29, 1954

Machine Nos. 4 & 6 Shift #1

Items	Points	Rated by M	T	W	T	F
1. Operator attentiveness	4			3	3	4
2. Correct method of piecing	2			2	2	2
3. Correct method of running out	2	A	A	2	2	1
4. Machine operating properly	2	B	B	2	2	2
5. Creel and stop motions operating properly	2	S	S	2	2	2
6. Cleanliness of machine:		E	E			
Aprons, fallers, and rubbers	2	N	N	2	2	2
Frame, floor, creel	2	T	T	1	1	1
7. No repairs due to carelessness: (Machine, creel, or apron)	2			2	2	2
8. Sets weighed correctly Sets or tops ticketed correctly Or tops checked for weight	6			5	5	6
9. No mixes, slubs, thick, or thin ends	4			4	4	4
Remarks:	Daily total	—	—	25	25	26

Total points for week 76

at 0.60 cents

Bonus: $0.46 per hr.

FINISHER CHECKSHEET is used for both operations. The last two items are so important to sliver irregularity that they are worth 10 points out of a possible 28.

ence and common sense were our biggest tools in figuring fair workloads. Here's what we came up with, per operator:

- 2 preparer gill boxes (double head) and a punch box
- 3 Noble combs (pick up noils)
- 2 first-finisher gill boxes (double head) with ball weighing and balancing
- 2 pin drafters or gill reducers (ball creel, double balling head) with top wrapping and weighing

Incentive System Is Unique

Increasing production by revising workloads is easy, but maintaining quality at the same time is not as simple. A system that prevents bad work is much better than one that corrects it. The incentive quality-control system installed at Model works very well. The checksheets illustrated explain the system.

The most an operator can earn, based on quality, is one-third of his pay. If the quality bonus is 50¢ per hr., for example, and if the most quality points that can be earned are 150 (five days, 30 points per day), the operator gets $0.50 ÷ 150 or $0.0033 per hour per point earned as a bonus.

If an operator with a 50¢ quality bonus gets 135 quality points in a week, he gets a bonus of 45¢ per hr. over his regular production pay.

We don't have an elaborate system of checking operators. All testing, checking, and point allocation are done by the shift foreman under the supervision of the head foreman.

Persistent neglect of any specific item reflects in lower points for operator attentiveness in addition to lower points for that item.

. . . About the Results

The 50% increase in workloads is abnormally high because our previous workloads were too low. We had been in a period of expansion and operator training.

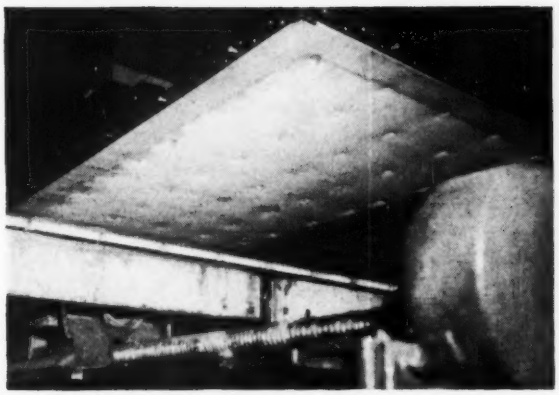
The average increase in gross pay per operator was 15%, and machine efficiency went up 10%.

Production in preparer gilling and punch boxes increased 50%, in comb production 17%, and in first- and second-finisher gilling 32%.

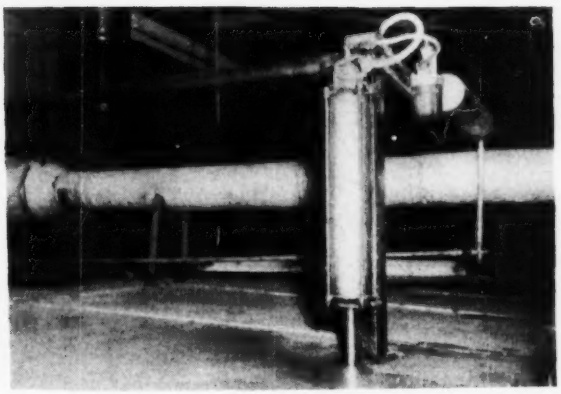
Short-term irregularity decreased about 10% as measured on the Pacific tester.

Long-term irregularity averages 3.1% coefficient of variation and is always below 4.0%. We take five inside and five outside 4-yd. samples per 1,000 lbs. of top (or per lot for small lots); and we calculate by the root-mean-square method.

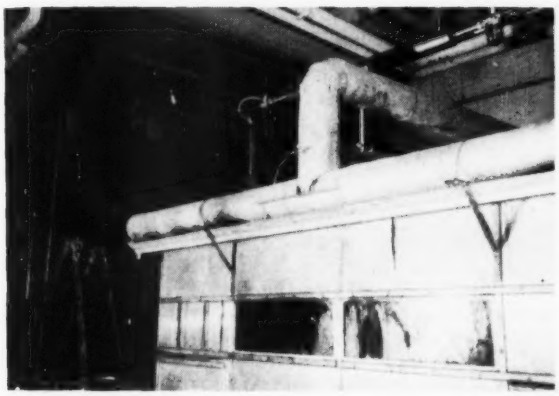
Top weight was 260 grains per yard but is now 160 grains per yard.



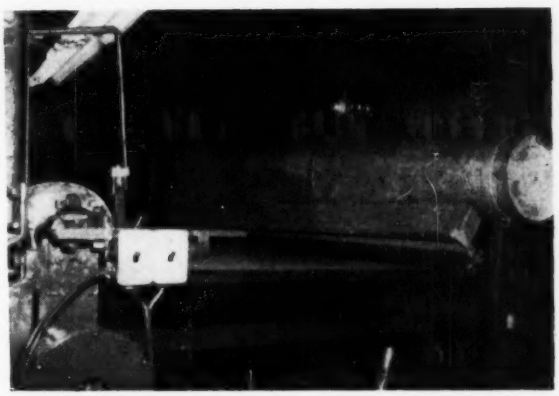
INFRARED HEATING UNIT is mounted over the pin tenter to heat-set the fabric.



AIR CYLINDERS are used to raise or lower the heating unit to control cloth temperature.



THIS DUCTING connects to a fan that removes oily vapors from heat-setting chamber.



AIR FROM THIS DUCT cools the fabric as it leaves the heat-setting unit.

For Heat-Setting NYLON—

- **Heat-setting units must be installed to permit rapid adjustment of position**
- **Auxiliary air currents help remove residual heat during frame stops**
- **Heating-chamber ventilation eliminates spots from condensate**

THE MAJORITY of nylon tricot fabrics being finished today are given a heat-setting treatment in the final framing operation. At one Southern plant, an electrical heating unit that operates in the infra-red range is installed in each tenter frame.

The drying and heat setting are consecutive operations performed on a pin tenter. The cloth must be bone dry before entering the heat-setting chamber; consequently, if the tenter stops for any reason, a considerable amount of expensive cloth is exposed to damaging heat. Nylon can be properly set only at nearly critical temperatures for definite lengths of time. Since stoppages are sometimes unavoidable, ways had to be found to prevent excessive damage.

How the Heaters Are Installed

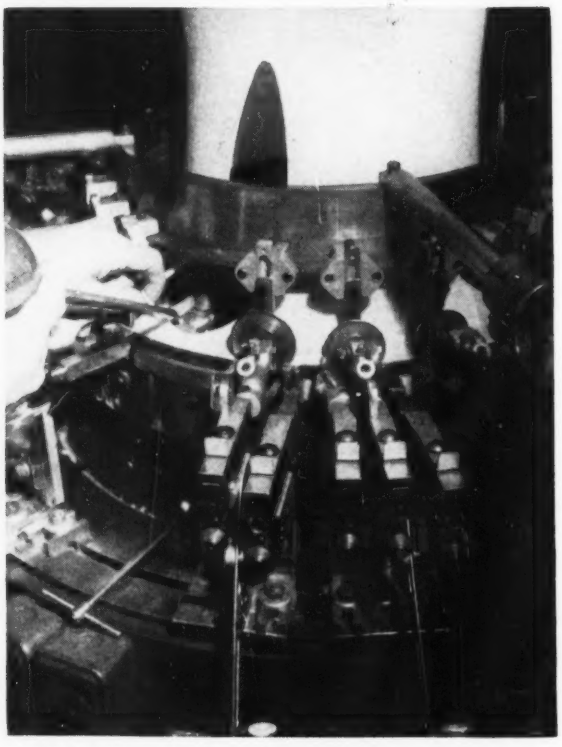
At this plant, setting temperatures vary from 390 to 420° F., depending on the fabric being heat-set, and the goods pass under the heating unit at 16 to 18 yds. per min. The heating unit is about 6 ft. long and extends the full width of the tenter. Installed in a compartment at the end of the drying housing of the tenter, the unit is mounted in an angle-iron frame supported by a double-acting air cylinder at each corner. When actuated by compressed air, these cylinders can raise or lower the heating unit.

In operating position, the unit is about 3 ins. above the fabrics; but when the frame stops, the operator turns air into the cylinders to raise the unit about 2 ft. above the cloth. Cur-

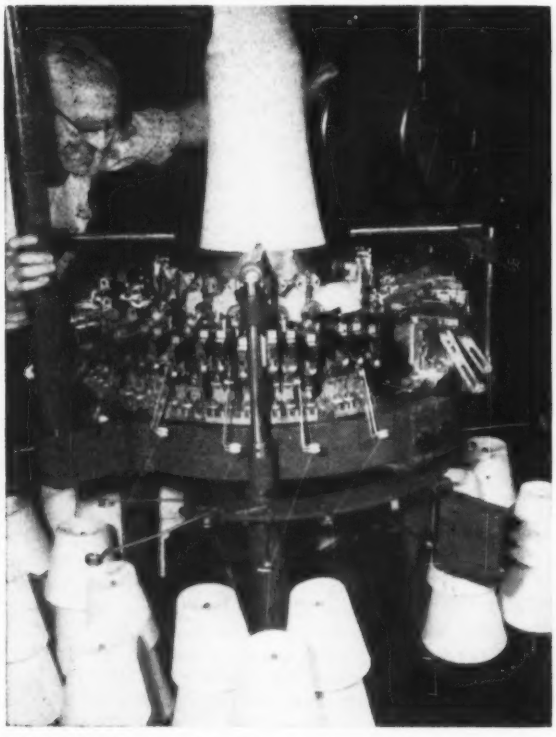
CONTINUED ON PAGE 198

At Robert Reis & Co.— **One SPRING-NEEDLE**

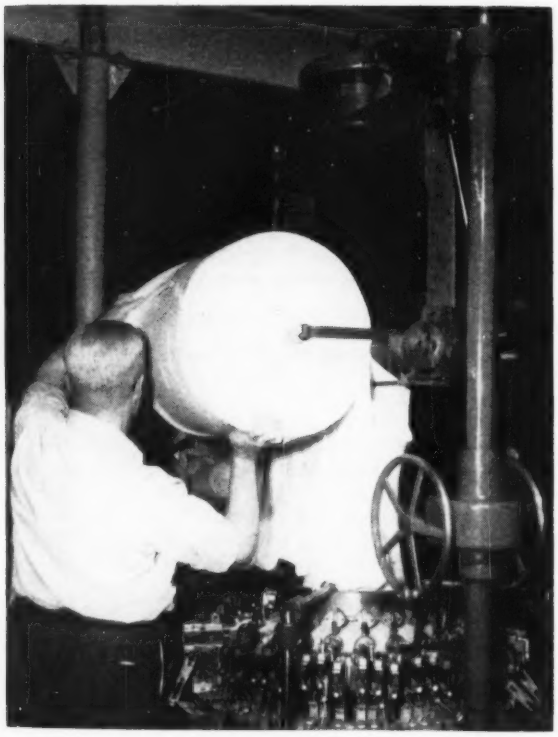
CLEANING with the air hose removes lint four times each shift. There are 20 feeds arranged around the 20-in.-dia. cylinder.



INSIDE BURRS have an oil reservoir that is filled at the start of each shift. A space is left between the front feeds for stitching on.



HAND WHEELS allow the machine to be turned slowly for checking all positions. Pigtail tied up cones are 6 ins. off the floor.



FABRIC ROLL, weighing 65 lbs., is 4 hrs. production. The roll shaft is retained by a rail that swings down for easy doffing.

Machine Knits 130 Lbs. in 8 Hrs.

New advancements in spring-needle knitting include:

- **A cylinder that rotates on roller bearings**
- **Stop motions that operate on cloth wheels**
- **Feed units that allow a feed for each diametrical inch**

By **JAMES H. BLORE,** Assistant Editor, TEXTILE WORLD

BY INSTALLING new spring-needle knitting machines in the Ford Mfg. Co. plant, Waterford, N. Y., Robert Reis & Co. is retaining high quality but speeding production of its underwear fabrics. The new machines, built by Precision Knitting Machine Co., rotate at high speed and have more than the usual feeds arranged around the cylinder.

Cylinder Speed Is 90 Rpm.

The first machine installed was a 28-gauge, 20-in.-dia. machine. This machine has been running for several months at 90 rpm. Two 65-lb. rolls of cloth are removed from the machine each 8-hr. shift.

There are 20 feeds arranged around the needle cylinder, and they are set up to produce high-quality balbriggan underwear cloth. The yarn is 26s combed peeler, and the stitch length is adjusted to knit 38 courses per inch.

The yarn is knitted from spinner's cones, and the pigtail tie-up system is used on all feeds. The yarn cones sit on stands fixed to the machine legs about 6 ins. off the floor.

Because of the high cylinder speed, cleaning and oiling is an important job. The roller bearing that supports the cylinder is lubricated for life, but the burrs need oiling twice during each shift.

Machine Oiled at Start of Day

Here is the oiling and cleaning schedule that Robert Reis & Co. uses:

The machine is oiled and cleaned at the start of the day's work. The cloth roll is removed at the end of the shift so that the soiled fabric from cleaning and oiling chores occurs at the end of the roll.

A slit is made in the fabric, and the inside burrs and stop motions are cleaned with the air hose. Each inside burr receives a shot of stainless needle oil. Each burr has an oil reservoir that keeps the burrs lubricated for 8 hrs.

Only one burr is used behind each feed; this one is a combination lander and cast-off burr. The burr is sunk in a bracket so that the cloth is lifted clear of a burr when the fabric is stitched on the needles. Individual feeds are then cleaned with the air hose while the yarn is held taut with the left hand. Each outside burr reservoir is then filled with stainless needle oil.

The yarns are then checked for correct threading, and the machine is turned over slowly. A hand wheel, which can be turned in only one direction, is used to turn the machine for this operation. The wheel is on the upright take-up support so that the knitter can examine all feeds while turning the wheel.

At 11 o'clock, the outside burrs are cleaned with the air hose.

The machine is then run until lunch time, when a 65-lb. roll is removed. When the roll has maintained its maximum size, the take-up ceases to work and the stop motions operate to prevent damage to the machine and the cloth.

The outside burrs are then cleaned and oiled after the roll has been removed from the machine. At 3 o'clock, the outside burrs are cleaned with the air hose, and the roll is doffed at the end of the shift.

Stop Motions Reduce Press-offs

The stop motions are Micro switches that are arranged underneath alternate cloth wheels. The cloth wheels have grooved edges, and the feeler of the switch is set opposite the groove.

The feeler falls in the groove when tension on the fabric is relaxed or when a hole or drop stitch passes the wheel. The electrical contact is in the switch, not between the wheel and the feeler.

The stop motion resets itself when fabric passes under the wheel, and the machine won't start if there is no fabric over the feeler. So far, press-offs have been no larger than 18 ins.

When the stitch is slackened, the stop motions are lowered by cutting a hole in the cloth and adjusting the Micro switches with the special Allen-screw T wrench that is used for all adjustments on the machine. When trouble is encountered with the stop motions, individual switches for each stop motion isolate the faulty circuit so that the trouble is quickly rectified.

The cloth is easy to remove from the machine because the roll is supported by a rail that falls to a horizontal position when the roll is doffed. The fabric-roll shaft runs down the rail so that the knitter can stand under the rail and receive the fabric on his shoulder.

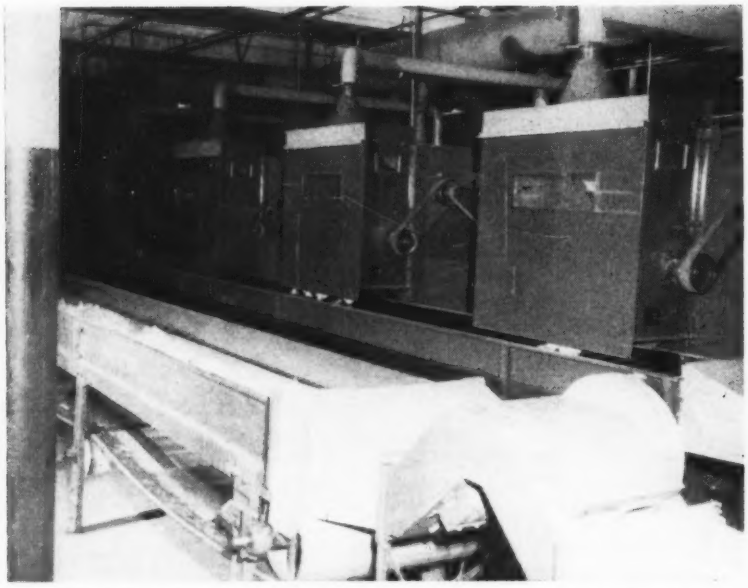
Mill Likes the Needles

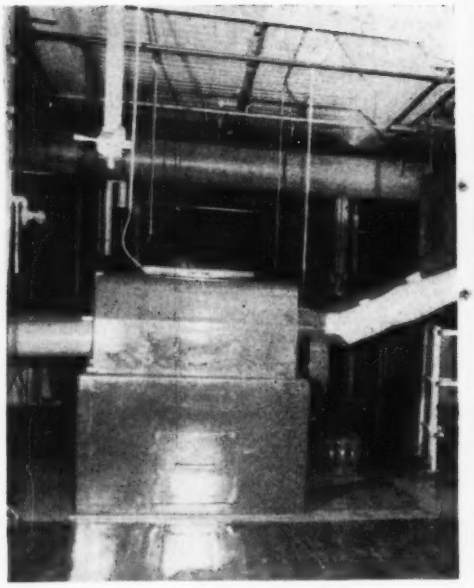
Knitting Superintendent Walter Kernaghan likes the butted needles in the machine because they don't need casting in leads and needle streaks caused by loose needles are eliminated. The clamps that hold the needles to the cylinder lock together to hold the needles firmly at the edges of the clamps.

Each feed unit consists of a clearer burr, a sinker burr, and a presser shoe. The units are clamped to the machine table. A 6-in. clear space is left at the front of the machine to allow the operator to stitch on the fabric.

Plans are being made to equip the machines with Wesco yarn stop motions and a presser retriever that pulls away from the needles when the yarn breaks or runs out. The presser retriever, developed by Stop Motion Devices Corp., is expected to reduce press-offs to a minimum.

Experiments are to be made with a fin on the take-up arms that should keep the needles and burrs free from lint. If this experiment proves successful, quality will be further improved, knitters' work will be made easier, and production will be further increased.



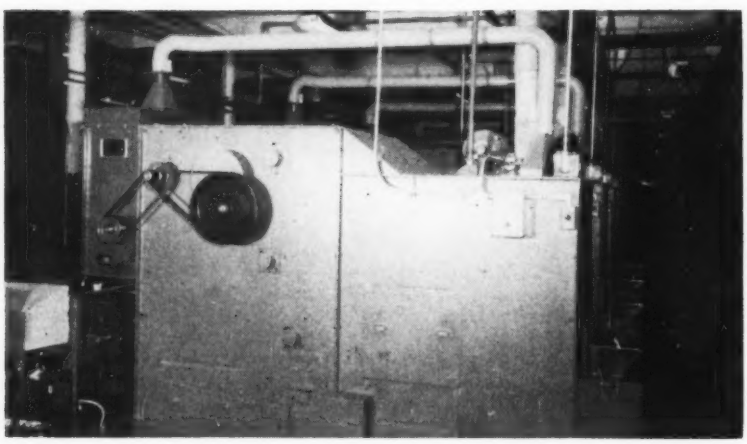


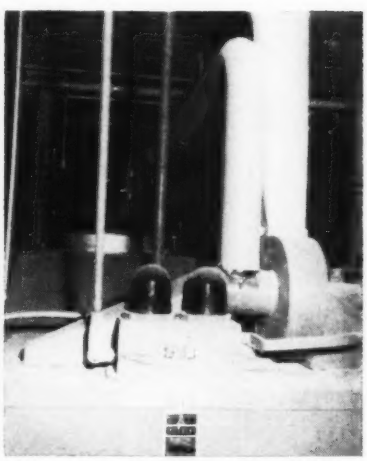
NEW OPENING LINE has two identical parts each consisting of four blending feeders with Axi-Feed, feed table, Axi-Flo, and No. 11-No. 12

New OPENING EQUIPMENT
Saves 1/10¢ per Lb. of Cotton

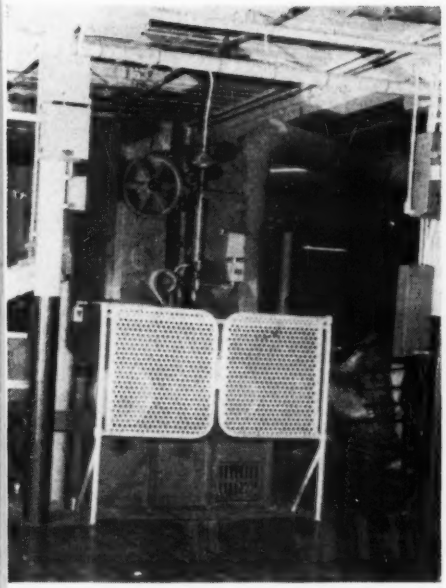
►The first installation of Axi-Feed and Axi-Flo is opening and cleaning 5-million lbs. of cotton a year with good results in waste, spinning, and mechanical operation.

By JAMES H. KENNEDY





AXI-FEED attachment fits on each blending feeder and does not require any more floor space or power. Waste is directed under the feeder; and dust is exhausted at top by pipe attached to existing fan, as shown at the right. Axi-Feed costs about $500, Axi-Flo about $2,500. New feed tables and rearranging hike total cost a little.



combination. The parts are joined after the No. 12's. Production of the line is 1,200 lbs. per hr., or 600 lbs. through each Axi-Flo machine.

VERSATILITY, simplicity, and the prospect of saving money on cotton are the main reasons a progressive New England mill has installed new opening equipment.

The new units, Whitin's new Axi-Feed and Axi-Flo opening machines, have been running for about six months now in the mill's filling line. The mill spins 41s filling from a 32-bale mix of SLM and LM cotton for gauze fabrics in constructions from 14x8 to 44x36.

How Units Were Installed

The opening line was changed over during the Fourth of July vacation week. Since the line was to continue feeding three pickers, the production required was 1,200 lbs. per hr. Axi-Flo might put out more than 600 lbs. per hr. on this mill's cotton, but not the 1,200 lbs. per hr. possible with cleaner cotton. So two Axi-Flo machines were installed side by side.

WASTE is removed from Axi-Flo at the beginning of each shift. Windows in clean-out doors allow view during operation.

The old line had eight blending feeders in a row feeding a vertical opener, a No. 11 dust and waste extractor, a No. 12 lattice opener, another No. 11 and No. 12, an F-5 hopper feeder, a No. 4 Aldrich beater, and a Super-Jet cleaner.

For the new line, the blending feeders were broken into two lines of four each. Now four feeders with Axi-Feeds take care of one Axi-Flo machine followed by a No. 11 and a No. 12. Four other feeders are behind the other Axi-Flo and the other No. 11 and No. 12. Cotton goes from the No. 12's directly to a condenser and thence to the pickers.

The mill preferred not to move any more machines than necessary; so one set of a No. 11 and a No. 12 wasn't moved. That's why there has not been as much of a gain in floor space as would be possible in a completely changed-over installation.

All Settings Are Outside

As the card-room foreman said, "One thing I like about Axi-Flo is that you don't have to take it apart and crawl inside to change a setting. And the machine is so simple in design that the settings are easy to make. It's quite a reversal of the current trend toward more complicated machines that you need an electronic engineer to fix."

The grid bars are set a little closer where the cotton enters than where it leaves: $\frac{5}{8}$ in. from the spiked cylinder is the entering setting and 1 in. is the leaving setting. Waste was too lean at first; so the grid bars were opened up slightly to the present settings.

Production is controlled in part by the setting of the fin at the top of the machine. This fin directs the recirculation of the stock, and the setting was determined by trial and error to achieve 600 lbs. per hr. for this line.

Results of Early Tests

It's too soon to make a final report, but here are the results of early tests made by the mill:

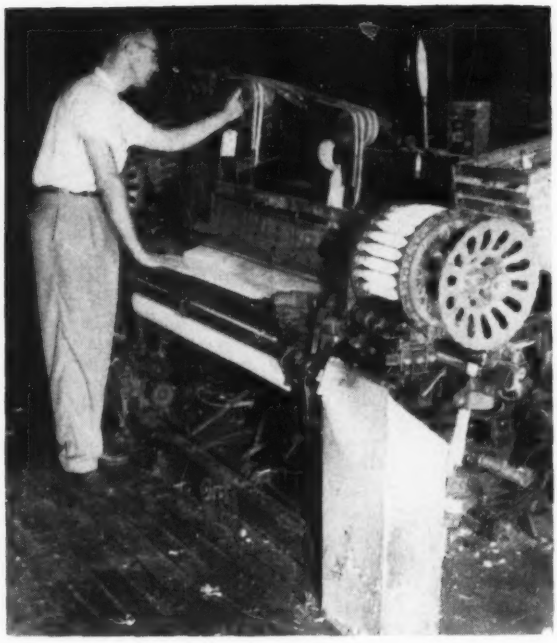
Tests show that the new line is taking out about half of the total opening and picking waste. Based on weight delivered at the pickers, total waste is 3.05%. Of this amount, 1.62% was taken out as follows in the opening line: Axi-Feed, 0.24%; Axi-Flow, 1.1%; No. 11 and No. 12, 0.28%.

Early tests in the spinning room indicate that there may be fewer ends down because fiber damage is less and yarn strength is therefore higher.

Neps are definitely no higher and may be a little lower.

Another test showed that the nonlint content in the laps was 1.2 to 1.4% and that the efficiency of the opening line was 68% on an SLM mix. Stock was tested on a Shirley analyzer.

CONTINUED ON PAGE 198



OVERHAUL LOOMS out of production. Then replace the looms in the weave room, and have supervisors check them closely. That's . . .

How Alabama Mill Men MAKE LOOMS RUN

- **First, they put looms in good mechanical condition**
- **Then, they train loomfixers to keep the looms that way**

THE WEAVING DISCUSSION at the fall meeting of the Alabama Textile Operating Executives at Auburn, Ala., showed that mill men representing four states are interested in three important ways of increasing weave-room efficiency:

1. Putting looms in good mechanical condition
2. Training loomfixers to keep them in condition
3. Controlling filling tension in shuttles

HOW TO FIX LOOMS

To Make Them Run

The first question asked at the meeting concerned the details of loom-maintenance programs. Typical answers to the question are:

Mill A—"Loomfixers are responsible for all loom maintenance except major breakdowns such as camshafts and crankshafts, head gears, clutch friction gears, lays, and loomsides. These breakdowns are all repaired by overhaulers on the first shift.

"Loomfixers have a regular program for minor overhaul jobs such as take-ups, let-offs, and batteries."

Mill B—"Loomfixers are given typed sheets each day showing certain loom parts to be inspected and repaired. Second hands and head loomfixers check looms daily."

Mill C—"When warps are out, loomfixers tighten all loom parts and set them with gauges. When they finish with each loom, they fill out and sign a card to indicate work done on the loom.

"Then when the card has been okayed, the assistant foreman checks the loom and signs the card. Finally, the foreman okays the card."

Mill D—"Loomfixers inspect the cloth on all looms at the beginning of each shift.

"Loomfixers' sections are divided into thirds, and each loomfixer on each shift is responsible for the upkeep of shuttles, leather, swords, etc. on his third of the job.

"Supervisors made weekly checks behind the loomfixers to see that their looms are kept up properly.

"Loomfixers check and tighten looms when warps are out. Both loomfixers and supervisors check harness settings and inspect cloth when a new warp is started. Loomfixers check and correct looms when the cloth-room graders send back bad-cloth tickets.

CONTINUED ON PAGE 198

HOW TO TRAIN LOOMFIXERS

To Keep Looms Running

Men from 10 of the 12 mills reporting on methods for training new loomfixers and loomfixers already on the job gave detailed information on their training methods. And results in nearly every case show that the training is paying off. For example, the general superintendent of several mills said: "We're progressing toward our goal of trying to get looms to run without being flagged between warps-out."

Answers from four mills on loomfixer-training methods are:

Mill A—"We train most of our own loomfixers. Our program is broken down into 26 parts and begins with preliminary training. It ends with practical loomfixer training. The complete program requires approximately 2,800 hrs. spread over 70 weeks. The total time depends on the individual trainee's ability.

"Each apprentice fixer is given an aptitude test before he is enrolled in the training program. The weave-room overseer directs the program, and a weekly progress chart is kept for each man. The rate of pay for each learner increases as he progresses. A satisfactory apprentice is given five pay raises in the 70-week period. The apprentice is kept informed on his progress, and he must keep up a prescribed rate of progress or he is dropped from the training program.

"Two men are trained at once, and each is given 20 to 40% of a section as he becomes able to fix the looms."

Mill B—"We have head loomfixers on each shift, and each head fixer has one trainee with him all the time. In addition to the trainees, the head fixers are responsible for all loomfixers."

Training Is a Full-Time Job

Mill C—"We employ a full-time loomfixer and weaver instructor. He works in a room equipped with two looms and the tools necessary to instruct weavers and fixers.

"Each loomfixer is taken through a breakdown for each loom motion; and a record is kept of the date, fixer's aptitude, etc. A fixer is given a refresher course when loom checks by the assistant foremen show that the fixer's settings are off. Refresher courses are also given when seconds increase from a particular weaving defect."

Mill D—"To train a new loomfixer, we put him with weave-room overhaulers for about eight weeks. At the end of this period, he is placed with an instructor-loomfixer on a regular section.

"He is instructed on the section in gauge settings, loom timings, various other settings, and preventive maintenance. In addition, he is instructed in fixing small breakdowns.

"The trainee stays with the instructor-loomfixer for eight weeks and is gradually given more responsibility for running the section. This encourages the trainee to learn to make decisions on looms that give trouble while the instructor is available to assist him.

"At the end of the eight-week period with the instructor, the trainee is placed on a section next to the instructor-loomfixer. The instructor continues to assist and instruct the trainee when it's necessary. The trainee stays on this section for eight weeks, and then he is placed on any section in the weave room where he is needed.

"The weave-room supervisors keep a close check on experienced loomfixers by spot-checking their work. When training is necessary, the supervisors do it right on the job."

Most mills reporting on the trainees prefer men who have had experience as weavers.

HOW TO FIX SHUTTLES

To Control Filling Yarns

Opinions on the best method of maintaining even tension on filling in shuttles were pretty close together for the same type of yarns and bobbin length. Generally, all mills are running both shuttle fur and bristles on cotton yarns in Draper looms.

Mills giving information on filling control are:

Mill A—"We run both shuttle fur and bristles and try to keep them in good condition at all times. Filling numbers on cotton yarn on 8¾-in. bobbins are 7½s, 9½s, 11s, 13½s, and 15½s. Looms are 36- and 40-in. Draper X models."

Mill B—"On 60-in. E-model looms running 8¾-in. bobbins on 10s to 22s staple-rayon yarns, we use one bristle across the top of the bobbin at a 45° angle. The bristle is to keep the shuttle eye from unthreading. In addition to the bristle, we use fur. We try to maintain control of the filling at all times and never allow it to flop around in the shuttle."

Mill C—"We use bristles and opossum fur in our shuttles. On looms 54 to 60 ins. wide, we use wool yarn in split binders. Our bobbin length is 8¾ ins., and yarn numbers are 3¾s to 18s."

Mill D—"We use two pieces of opossum fur in our shuttles. The piece on the front wall is 4 ins. long, and the piece on the back wall is 5 ins. long. We also use one bristle on each wall of the shuttle. Our filling numbers range from 3s to 16s. Looms are 36-, 40-, 42-, and 60-in. E models.

Mill E—"We have our loomfixers go over the shuttles at least once each week to replace all worn fur and bristles and see that the bobbins are straight in the shuttles.

"We use 8¾-in. bobbins on 5½s to 19s filling. Looms are 22-in. E models running 182 ppm. and 40-in. X-2 models running 192 ppm."

Checklist for Lining Shuttles

Mill F—"On 90-in. L-model looms running at 100 ppm. on 33s filling and 8¾-in. bobbins, we use the following methods to maintain even tension:

"1. Align the bobbin with the shuttle eye.

"2. Place a strip of fur 6 ins. long and ⅝ in. wide on the back wall of the shuttle ¼ in. from the bottom. Place a strip of fur 3½ ins. long and ⅝ in. wide on the front wall of the shuttle ¼ in. from the top.

"3. Put a top bristle in the shuttle 6½ ins. from the end of the shuttle spring and ¼ in. from the top. The angle of the bristle is 45° forward and 30° downward. Put the bottom bristle 6¾ ins. from the end of the shuttle spring and ½ in. from the bottom of the shuttle The bristle is placed 45° forward and 30° upward."

Mill G—"We use opossum fur for maintaining tension on single yarns, 10s and above. Bristles are used on coarser yarn numbers, below 10s.

"Bristles are used on ply yarns; but on some yarn numbers on ply yarns, both fur and bristles are used. When only bristles are used, we use 9 per shuttle with single yarn and 10 per shuttle with ply yarn. The bristles are arranged in two rows, one row on each side of the shuttle, and point toward the shuttle eye. When both fur and bristles are used, the number of bristles vary with the type of filling run.

"Yarn numbers range from 2.65s to 12s single and from 7/4 to 24/2 on ply yarn.

"Bobbins are 8¾ ins. long, and looms are 32- to 66-in. modified D and 54- and 64-in. XP models."

Here's a Quick Way To IDENTIFY FIBERS

By W. R. WILSON, Textile Research Dept., American Viscose Corp.

A GOOD METHOD of fiber identification must be simple, and it should eliminate the use of human senses of smell or feel.

Don't rely on a single test. Observe physical characteristics under the microscope after staining, and confirm by solvent methods and cross sections. The approach we have found best is:

1. Stain the sample.
2. Observe fiber structure in longitudinal view.
3. Dissolve the fibers.
4. Confirm by cross section.

Fibers used in relatively minor volume have been left out to keep the method simple. Similar techniques can be used for them.

The method works only for the fibers that are on the market today. Modifications of fibers, or additions of new ones, will make revision of this approach necessary. Minor variations may be required by any fiber modification caused in processing.

This simplified method offers a workable system for the average technician.

STAINING

A. Undyed or unsized fibers

Boil the sample for 2 mins. in a 1 or 2% solution of the staining dyestuff. Among the stains that can be used are: Fiber Identification Stain No. 4 (E. I. du Pont de Nemours & Co., Inc.); Texchrome Identification Stain (Fisher Scientific Co.); Calco Identification Stain No. 2 (American Cyanamid Co.); Fibrotint GLS (Ciba Co., Inc.); Identification Stains GDS and ODDA (General Dyestuff Corp.) Identification Stain C-63807 (National Aniline Div.); and stains made by Interchemical Corp. and Testfabrics, Inc.

Rinse.

Check against color chart. Mount the sample in water on a slide and observe under the microscope at 100x or 200x magnification. (This chart is based on Calco Identification Stain No. 2. For a double check, always stain fibers of known composition and compare with the unknown.)

B. Dyed fibers

Strip the dyestuff from the sample, and proceed as with undyed fiber.

Check with the dyestuff company for stripping technique, if necessary. Stripping doesn't always bring complete color removal, but residual color should interfere only with the depth of shade when stained.

C. Sized fibers

Remove any size that might interfere with identification, and proceed as with undyed or unsized fiber.

Gelatin or oil size: scour with 0.5% soap or soda ash.

Starch size: treat for 1 hr. at 140° F. in a 2 to 3% enzyme solution.

Wax size: treat for 1 hr. at 100° C. in a 0.5% caustic soda and 0.5% soap solution. Refluxing with petroleum ether may be helpful.

These treatments should remove usual sizes.

DISSOLVING

Disperse the stained fibers on a dry slide and cover with a glass.

Set the field in focus, and allow a drop of solvent to seep under the cover glass.

If the action is not immediate, let the sample stand for 10 mins. to make sure that processing such as heat treatment has not delayed the action.

(If you have only one small sample and wish to identify all fibers after one fiber has been dissolved, remove the cover glass, absorb the solvent with a good blotter, rinse

CONTINUED ON PAGE 92

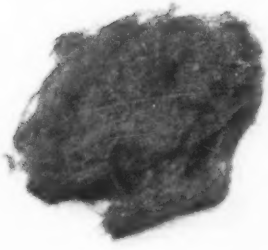
Reprints Available Reprints of this article are available at 50¢ each, or 40¢ each in lots of 20 or more. Copies can be ordered by writing to: Editor, TEXTILE WORLD, 330 W. 42nd St., New York 36, N. Y.

IDENTIFICATION STAINS

Viscose

Acrilan

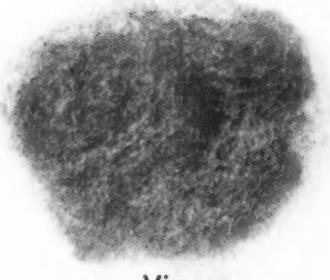
Wool



Acetate

Orlon

Cotton

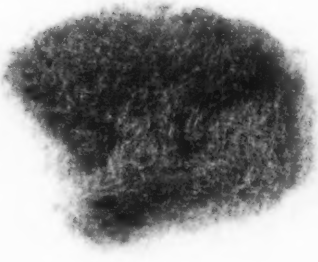


Vinyon

Dacron

Cupra

Nylon



Dynel

Vicara

Fiber Identification (Continued)

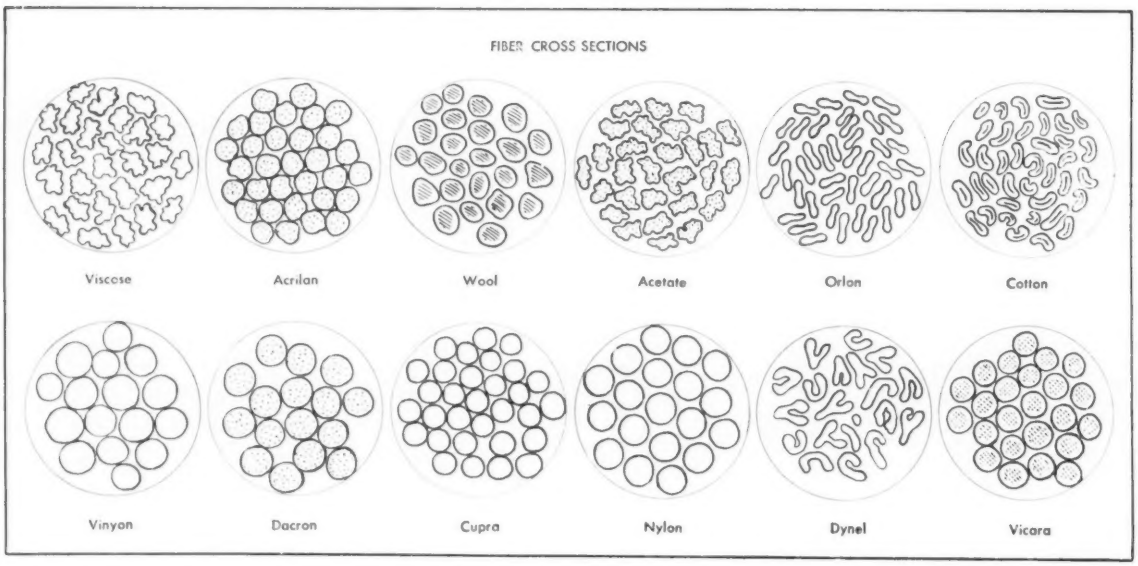
with distilled water from a medicine dropper, and blot again. The rinsing and blotting should be repeated two or three times. Wash after each extraction to avoid contamination of the solvent. Use a clean cover glass each time.)

Use the solvents in the order specified in the chart. Each solvent will not attack fibers listed below it, but it might attack fibers listed above. All solvents except those for separation of wool and Vicara are effective at room temperature.

Fiber	Solvent
Cellulose acetate	Glacial acetic acid (Don't use acetone because it dissolves Vinyon HH and Dynel.)
Vinyon HH	Chloroform
Dynel and Vinyon N	Dimethylformamide
Nylon	90% phenol
Viscose	Cuprammonium hydroxide
Cupra	Cuprammonium hydroxide
Cotton	Cuprammonium hydroxide (Use the standard cuprammonium solution prepared by Bureau of Standards or Tappi method. Viscose and cupra are difficult to distinguish by solubility, but microscopic inspection of longitudinal or cross-section samples will separate them. Cotton may be only partially soluble in this solution, but ballooning of the fiber will usually identify it. Cotton is also identified by its convolutions in longitudinal view.

Fiber	Solvent
Wool	20% bleach (NaOCl)
Vicara	20% bleach (NaOCl) (Dilute one part of commercial bleach with four parts of water. Both wool and Vicara will dissolve if immersion time is long enough. To separate wool and Vicara, dissolve the wool in a 10% KOH solution at the boil. The Vicara will not be harmed.)
Orlon	Concentrated nitric acid
Acrilan	Concentrated nitric acid (The chemical composition and solubility of these two fibers is so similar that a cross section must be made to identify them.)
Dacron	All that should be left on the slide is Dacron and the noncellulosic portion of the cotton. If these two fibers can't be separated visually, dissolve the cotton in 80% H_2SO_4.

CONFIRM BY CROSS SECTION



AUTOMATIC STRAPPER

PLASTIC BOX holds 1-doz. lot of stockings that have been removed by the seamer from the handling rods.

SEAMED STOCKINGS drop onto chute and fall into the box at the seamer's feet. The chain is not clipped.

Production Raised 10% in FULL-FASHIONED SEAMING

▶ **Production has been increased and handling reduced by seaming hosiery in string formation**

By JAMES H. BLORE
Associate Editor, TEXTILE WORLD

CHAIN between the stockings is clipped by the inspector when the stocking is drawn on the form.

A SYSTEM of seaming full-fashioned hosiery at Eaton Knitting Co. Ltd., Hamilton, Ont., has resulted in increased efficiency. Seaming production has been increased to 40 doz. per day.

When the stockings are removed from the knitting machine, they are tied in 1-doz. bundles at the toe to prevent the pressed-off loops at the toe unraveling. This procedure allows a minimum of waste at the toe and reduces knitting-machine running time.

The stockings are hung on metal handling rods and delivered from the presetting cabinet on specially built trucks.

Seamer Has One Knitter's Work

The handling rods are lifted from the truck and moved to a rack on the seamer's bench. One seamer is supplied with one knitter's production from one shift.

Individual seaming tables have been cut from the original long bench. The operators sit alongside the table while the Union-Special seaming machine is fixed in a square position.

The 1-doz. bundles of stockings are untied by the seamer and laid in a rectangular plastic box fitted to the side of the seaming table. The toes are laid out close to the operator's elbow.

The seamer reaches for the stockings in the box with her right hand while finishing the previous stocking. The new stocking is guided between the cups.

Chain Is Not Clipped on Seamer

The chain between the stockings is not clipped at this time. The seamed stockings fall onto a chute and are guided into a box at the seamer's feet.

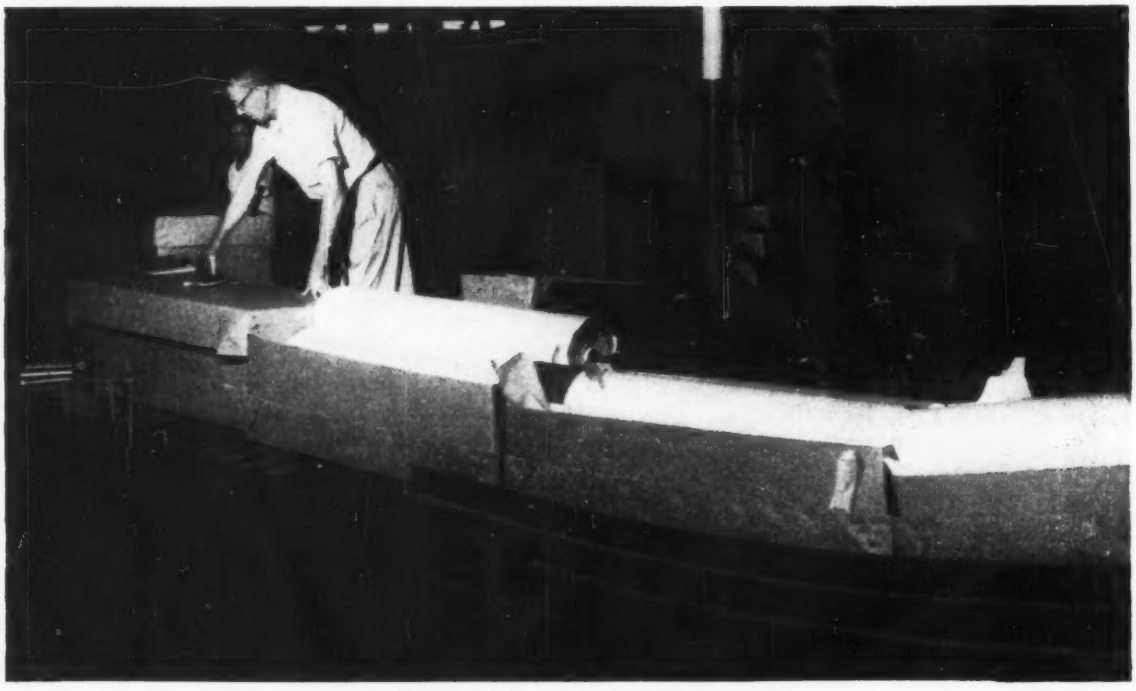
One shift's production is kept in string formation, and the box containing this batch of stockings is moved to the inspector.

The inspector reaches into the box and draws the first stocking onto the inspecting form. The chain between the stockings is clipped as the inspector completes drawing on the stocking.

As the sizes are all identical in one batch, the inspector gets long runs without changing the inspecting forms.

After inspection, the inspector lays the stockings in the counter to bundle them in 1-doz. lots again for preboarding.

AUTOMATIC STRAPPER
Cuts Packaging Costs



THIS CONVEYOR brings cases to the strapping machine.

THE COVER has been placed on the case, and pressure is being applied to make a firm package.

▶ **With this device, all standard-size cases are prepared for shipping**

▶ **Ramps and conveyors to and from the strapper complete a well-engineered packaging system**

▶ **Two men perform the major operations that previously required four or five employees**

By ROBERT W. PINAULT
Assistant Editor, TEXTILE WORLD

ONE LARGE SOUTHERN BLEACHERY reduced its packaging costs and increased efficiency by centralizing and mechanizing packaging operations. Corrugated-paper cases from all departments converge at an Autobond strapping machine, which handles all but the few small cases used for samples, single cuts, or other odd lots.

How Conveyors Are Used

As the lots are made up, the cases are filled right on the roller conveyors leading to the strapping machine.

Cases from the departments are brought to the strapper by means of a power-driven ramp that raises them over a passageway and conveys them to a belt conveyor that may be lowered to the main roller conveyor leading directly to the strapper.

The Autobond strapping machine, made by General Strapping Co. and leased to the user, is installed in a pit so that the platform upon which the cases rest is flush with the conveyors.

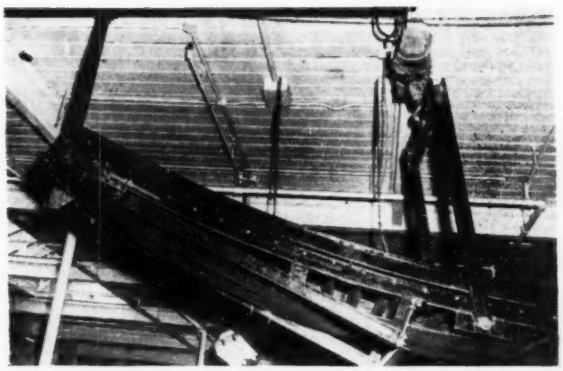
How the Cases Are Made

The operators slide the case from the roller conveyor onto the base plate of the strapper and position it so that the band will fall where desired. A cover is placed over the case, and the upper plate is lowered hydraulically with sufficient pressure to make a firm package. A push-button switch starts the banding mechanism, which encircles the case with a steel band, cuts off the band, and spot-welds it in a few seconds.

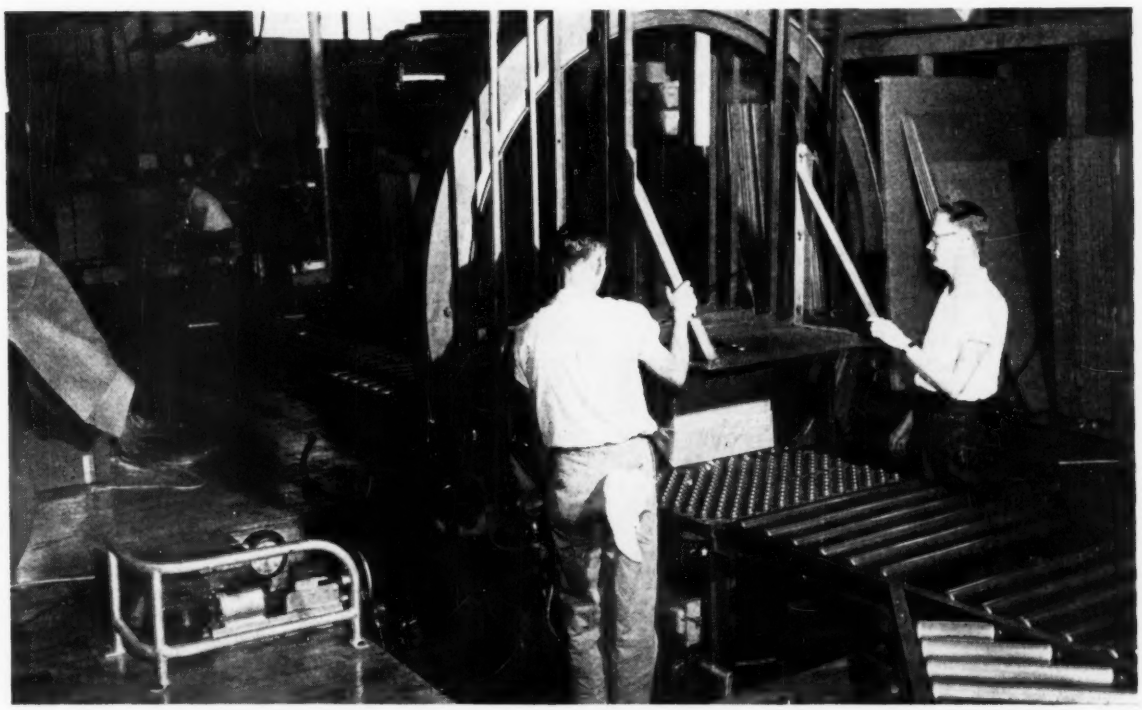
Most cases require one longitudinal and two lateral bands. The operators turn and position the case on the base plate so that each band falls in the proper place.

After the strapping is complete, the cases are pushed off onto another conveyor that takes them to the warehouse for disposal.

The installation has resulted in considerable savings in manpower. Two men now handle all the strapping that four or five men did with hand strapping devices. The conveyor system has eliminated considerable trucking and handling of cases to the strapping machine.



CONNECTING BELT CONVEYOR is raised out of the way when it is not in use.



THE STRAP is being placed around the case and will be spot-welded.

Alabama Mill Men Look at SLASHING

Equipment—

- Pressure-type squeeze rolls
- Pneumatic loading
- Roller covering

Methods—

- Creeling to reduce yarn waste
- Testing to control viscosity
- Ways to correct size content

THE SLASHING DISCUSSION at the fall meeting of the Alabama Textile Operating Executives held at Auburn, Ala., concerned mechanical improvements for slashers, slasher-roll maintenance, normal thread waste, and size viscosity and content.

EQUIPMENT TO IMPROVE SLASHING

Question No. 1 dealt with the advantages of pressure-type squeeze rolls. Mill answers are:

Mill A—"Pressure-type squeeze rolls result in yarns sized more uniformly because the size penetrates the yarn better. The slasher operator also has to do less manual labor."

Mill B—"We have two slashers equipped with pressure-type squeeze rolls. We have made extensive comparison tests and find the only real advantage of the pressure-type roll is that the rolls are easy to raise and lower."

Mill C—"We get greater uniformity in size pickup with pressure rolls."

Other mills say pressure-type rolls are "easier to operate," "less expensive," "give more uniform pressure from side to side," and "give more uniform size pickup."

Does Pneumatic Loading Help?

Only three mills reported they were using pneumatic loading. Eight mills have had no experience with this type of loading. Mills using pneumatic loading report these results:

Mill A—"We use 600 lbs. of pressure on our rolls and are careful to cover the rolls with the correct combination of worsted and cotton yarns. A well-balanced size mix for the yarns to be slashed is also necessary with pneumatic rolls.

"We don't think we can change our size content or the size penetration by setting the pressure light or heavy.

"The important things are to have the correct ratio of softener, water, and starch, and to follow a suitable cooking cycle."

Mill B—"We have operated slashers with pneumatic loading for about 2½ years on 35½s warp yarn for 88x94 percale sheeting. After experimenting on different pressures, we have settled on pressures of 40 psi. on the finisher squeeze roll and 30 psi. on the breaker squeeze roll."

Mill C—"We have used one slasher equipped with pneumatic loading for six months. Loading is easy and quick, and the pressure is more uniform. We use 700 lbs. of pressure.

"Our yarns are 7 through 15s with 4,800 to 8,000 ends. Cloth is 57 to 120 ins. wide, and ends range from 60 to 84 per inch."

What's the Best Roll Covering?

Reports from mills using synthetic-rubber-covered finishing rolls indicated that the rolls were generally unsatisfactory but that the newer type of synthetic-rubber-covered rolls seem to be doing the job. The density of the roll is important; and once the correct density for a slasher is found, the rolls are satisfactory. Most mills reporting, however, use synthetic-rubber-covered back rolls with good results. Typical reports of mills are:

Mill A—"We use the synthetic-rubber-covered rolls with pneumatic loading, and they are very satisfactory since we're using the new type. All slasher squeeze rolls are the synthetic-rubber type.

"We buff the rolls when the size content of the warps becomes substandard; usually the job is done about every three months."

Mill B—"Our experience with synthetic-rubber covering for rolls was not satisfactory. The rolls could not be cleaned easily."

Mill C—"Where low pressures are used with synthetic-rubber roll covering, shedding is excessive; but with higher pressures, the rolls are very satisfactory."

Mill D—"We have had one slasher finishing roll equipped with this type of covering for four months. So far, the results are satisfactory."

Mill E—"We found the synthetic-rubber roll covering unsatisfactory on finishing rolls, but it is satisfactory on back rolls."

Yarn-Wound Covering Is Popular

The advantages of yarn-wound squeeze rolls in comparison to blanket-covered rolls were discussed thoroughly. The yarn-wound rolls are used more. Mills report:

Mill A—"We have seven slashers equipped with wool-wound rolls and find they are more satisfactory than blanket-covered rolls because we can rewind the rolls without excess effort any time it's necessary."

Mill B—"We changed from blanket-covered rolls to wool-wound rolls 19 years ago. At that time, the wound rolls were cheaper. The wound rolls are also more satisfactory."

Mill C – "Yarn-wound rolls are cheaper to maintain than blanket-covered rolls. We are experimenting with blanket rolls now but have not used them long enough to make comparisons. So far, we find a slight increase in yarn size content from blanket rolls."

The annual fall meeting of the Alabama Textile Operating Executives was held at Auburn, Ala. William T. Curry of Cone Mills, Alabama City, Ala., led the slashing discussion.

William E. Williams of Avondale Mills, Sylacauga, Ala., led the weaving meeting.

Mill D—"Advantages of using yarn-wound squeeze rolls are (1) lower costs, (2) no stopping to change blankets, (3) no seasoning of blankets, (4) no handling of hot blankets, (5) no lap marks, (6) no trimming of blankets, and (7) we think yarn-covered rolls withstand higher speeds than blanket-covered rolls."

Mill E—"We like yarn-wound rolls better because they're less expensive and easier to apply, there are no blanket or roll marks, and yarns are slashed more uniformly."

Mill F—"The advantages of using yarn-wound rolls are: (1) lap marks are eliminated, (2) the size content of warps can be varied by varying the amount of wool and cotton yarn on the rolls, (3) the size content can be held to close limits of variation, (4) time consumed in changing blankets is eliminated, and (5) the costs of re-covering the rolls are greatly reduced."

Mill G—"Yarn-wound rolls are cheaper and give a more-uniform finish to slashed warps."

Mill H—"We have used yarn-wound rolls for 12 years, but new tests are showing better results from blanket-covered rolls. The tests show better penetration of size and better distribution of moisture throughout the warps when blankets are used. The blankets cost more than the yarn rolls, though.

"The warps slashed with blanket-covered rolls have increased the production of Barber-Colman tying-in machines 7,000 ends each 8-hr. shift. These warp ends don't stick together.

CREELING TO REDUCE YARN WASTE

The mills pooled their ideas on how to reduce both hard and soft waste on slashers. One executive commented, "If you reduce soft waste, you increase hard waste, and vice versa." Most mills are making an effort to reduce their waste. Here are the methods some mills are using in creeling to reduce hard and soft waste:

Mill A—"When a set runs out, we lift the squeeze rolls, cut the steam off the cylinders, rinse the squeeze rolls, and creel a new set of section beams by tying them to the old set and pulling them to the front of the slasher.

"All the sized yarn of the old set is used except approximately 4 yds. that's put in hard waste. On the new set, all the yarn from the size box to the lease comb is put in soft waste. We average putting 3 to 10 yds. of yarn in soft waste from the section-beam run-out.

"Hard waste at our mill runs 0.75% and soft waste 1.0%."

Mill B—"We pull up three or four section beams, and then we go back and drop lease strings until all lease strings are in place. Before any lease strings enter the size box, we apply a sandwich of masking tape to hold the lease.

"As soon as the lease strings are run through the size box, the slasher is stopped and the size is drawn. After the size is drawn, we strike a lease at the front of the slasher on the soft yarn next to the sandwich of masking tape.

"Hard waste runs 0.40%, and soft waste runs 0.44%."

Mill C—"When loose ends show up at the size box, we cut out the set and put in a new one. We run the knots through the squeeze rolls, let the immersion roll down, and run lease strings. The yarn on the cylinders when the set runs out is run onto the loom beam. This way, the lease is picked up on the sized yarn near the knots of the new set.

"Our total hard and soft waste on a set containing 4,000 lbs. is 0.25%."

Mills	Soft-waste Percentage	Hard-waste Percentage
A	0.75	1.0
B	0.54	0.44
C	0.27	0.697
D	0.44	0.40
E	0.24	0.30
F	0.125	0.125
G	0.40	1.5
H	0.30	0.07
I	0.50	1.0
J	0.60	0.70
K	0.55	0.06
L	0.33	0.83

ACTUAL YARN WASTE was given by 12 mills.

Compare These Two Checklists

Mill D—"Our method of creeling is:

"1. With the creel in place, line the section, pull the yarn over the beams, and tie them to the old set.

"2. Put in lease strings and run the slasher until the last string is run through the size box about 12 ins. beyond the lease roll.

"3. Let the squeeze rolls down, turn steam on the slasher, draw size to the box, and run the lease strings to the front of the slasher. Cut off steam on the slasher.

"4. Raise the squeeze rolls, and rinse the yarn:

"5. Count the set in the rake, and put in the lease rod.

"6. Let the squeeze rolls down, and turn on the steam.

"7. Run the slasher until the sized yarn gets to the loom beam.

"8. Doff the beam. Then the slasher is ready to operate.

"Our normal hard waste is 0.07%; soft waste is 0.30%."

Mill E—"Our method may not be the best way, but here's what we do:

"1. When loose ends show up on the first section beam at the runout, we stop the slasher.

"2. Drop the size from the size box. Raise the immersion roll and squeeze rolls, and rinse the entire size box and rolls with water. Fill the box with water, and turn steam on to bring the water to a boil while other duties are being performed. Move the yarn forward a few feet after rinsing the box to help clean the squeeze rolls.

"3. Cut out the set, and pull the remaining soft yarn off the section beams.

"4. Load the new set in the creel.

"5. With one operator on each side of the creel, pull over the new set. When the pullover reaches the fourth section beam from the back, lay down the ball of pullover yarn, and insert a lease string between the two back beams.

"6. Then pull the yarn over beam by beam, and insert lease strings between each two sheets of yarn.

"7. Tie on the new set. At the time the knots are tied, the lease strings are on the fourth beam from the size box.

"8. Move the yarn forward until the knots are halfway between the size box and the large cylinder. Be sure the ends are parallel; if not, move the yarn forward until they are.

"9. Put on the tape to be used in counting in the set about 3 ft. ahead of the strings.

"10. Bring the tape over to the calender rolls by winding the sized yarn onto the loom beam.

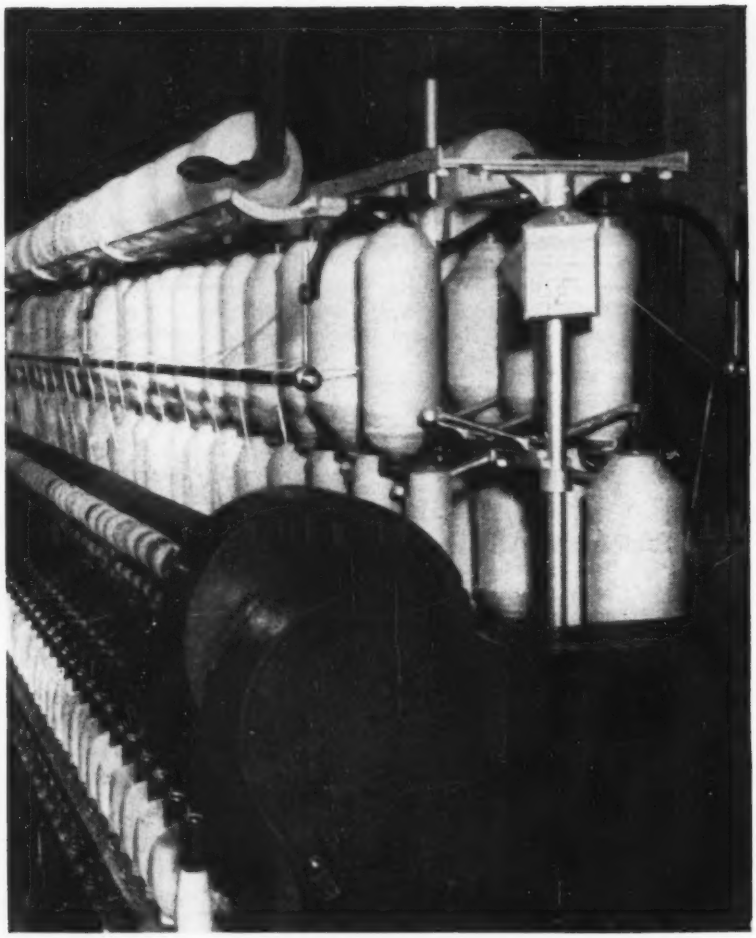
"We consider 0.70% hard waste and 0.60% soft waste normal."

TESTING TO CORRECT SIZE CONTENT

Three mills answering the question of how they make size viscosity tests are using viscometers. Seven mills use other methods or do not make the tests at all. Mills that do not use viscometers are using these methods:

Mill A—"We make viscosity tests

CONTINUED ON PAGE 200



REBUILT SPINNING FRAMES have antifriction roller-bearing spindles and new-type spare-roving rack.

Rebuilt

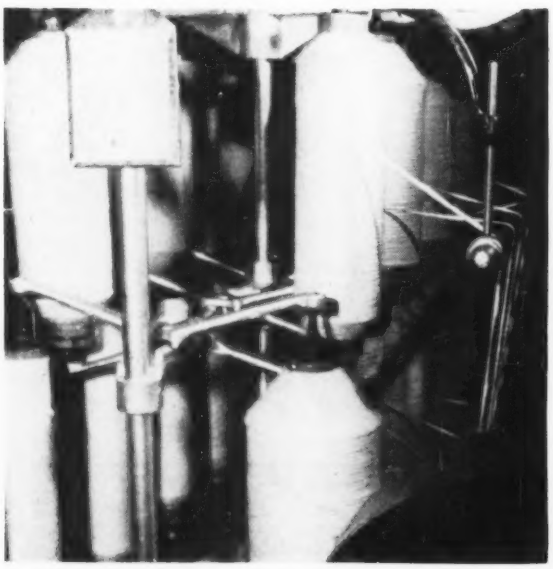
Spinning frames at Beaumont Div., Spartan Mills, are brought up to date with—

- **Redesigned creels**
- **Roller-bearing spindles**
- **Longer traverse**

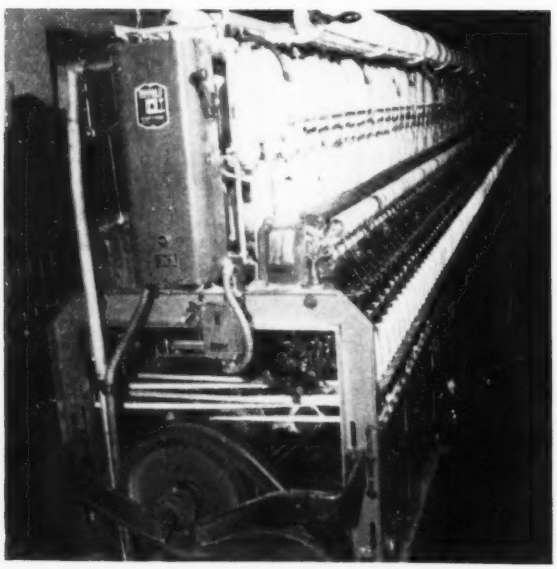
By JAMES H. BLORE
Associate Editor, TEXTILE WORLD

BEAUMONT DIV., SPARTAN MILLS, Spartanburg, S. C., is rebuilding several spinning frames. The work is done by the mill's maintenance crew; and some of the benefits of the program are expected to be better-quality yarn, higher production, and lower costs.

Whitin 256- and 264-spindle frames



REDESIGNED CREEL allows the overhead-cleaner blast to keep the bottom roving free from lint and to reach the cylinder.



END SAMSON at the drive end has been replaced with a new one. The roller beam has been raised 3 ins.

SPINNING FRAMES
Boost Quality and Production

have been converted so far. Major items in the conversion are: a new-type creel designed to reduce the lint-accumulation problem, ball-bearing spindles that run paper tubes, and a higher lift to spin larger-size packages.

New Creel Keeps Roving Clean

The new steel creel allows the overhead cleaner to keep the bottom roving bobbins free from lint accumulations. A cutaway portion of the bottom creelboard allows the blast from the cleaner to reach the weights and the cylinder.

A steel rack, which is not directly above the roving bobbins in the creel, stores the spare roving and keeps the bobbins neater than they were on the old-type creel tops. The roving bobbins are held in place by steel brackets screwed to two rods, which are supported every 4 ft. on cross members fixed to the roller beam.

The roller weights are supported on a ½-in. rod that is also fixed to the cross members. Some machines have retained the original bottom creelboards, but the center portions have been cut away.

The roving-bobbin brackets are arranged to accommodate 12x6-in. packages. The brackets are offset so that the bobbin tapers overlap. This idea has reduced the level of the creel rack, and loading the creel is easier because reaching is reduced.

Spindles Take Two Tubes

The antifriction roller-bearing spindles made by Hartford Machine Screw Co. accommodate two sizes of paper tubes. The 12-in. tubes hold 0.843 lbs. of yarn, and they are used for coarse yarns. The 10-in. tubes, used for finer yarns, hold 0.531 lbs. of yarn.

The two sizes of tubes prove adaptable because they can be used on spooling equipment designed for both sizes of packages. The extra yarn on the packages gives fewer reties on the spooler. Spooler production is expected to increase when more frames are rebuilt.

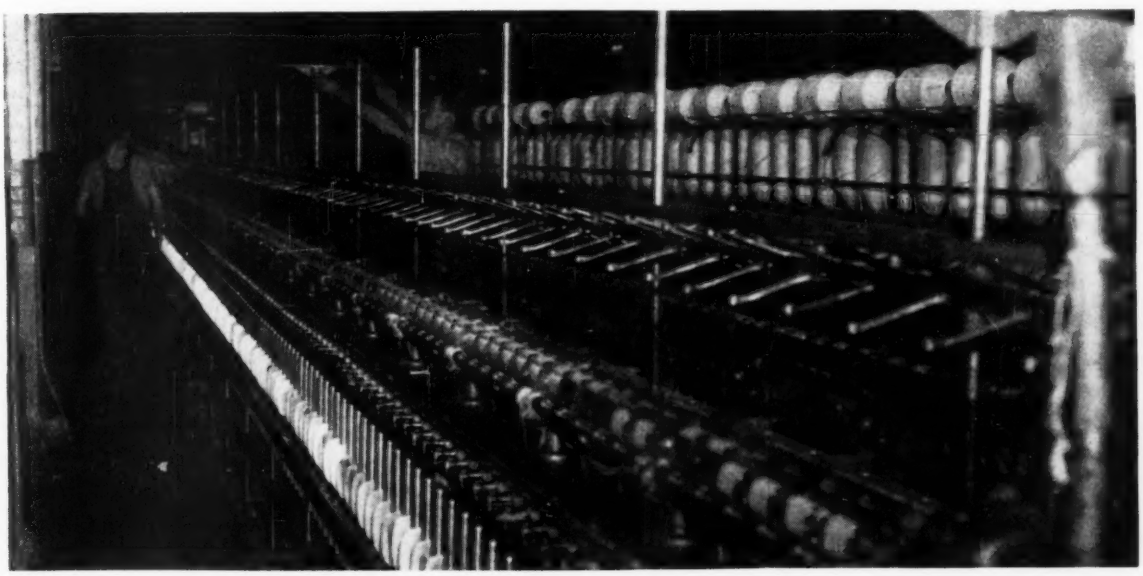
The spinning frames are 3½-in. gauge and have 2-in. rings. The front-roller speed is 152 rpm., and the 14s yarn is spun from 0.85-hk. roving with a spindle speed of 8,500 rpm. The roller-bearing spindles have reduced dirty yarn and eliminated spindle oiling.

Traverse Raised to 9⅜ Ins.

The roller beam has been raised 3 ins. to allow the extra traverse to be made. The traverse has been increased from 8 to 9⅜ ins.

A new samson at the drive end, two blocks under the gear-end samson, and raising blocks under the roller beam at 4-ft. intervals have lifted the roller beam about 3 ins.

Now that three frames have been rebuilt and the major bugs have been ironed out, the maintenance crew at Beaumont can rebuild a frame in three to four days.



A FRAME IS REBUILT in three to four days by Beaumont's maintenance crew. The roving-bobbin brackets are arranged to accommodate 12x6-in. packages

CONVENTION PAPERS

▸ Noncontesting technical papers given at the 33rd national convention of the American Association of Textile Chemists & Colorists covered a variety of subjects

▸ Papers condensed for presentation here relate to—

- **Preparation and Dyeing**
- **Finishing**
- **Printing**
- **Waste Disposal**

Other AATCC papers in these classifications will be presented next month.

• Preparation and Dyeing

UNBLEACHABLE COTTON-- What Causes It?

• Poor color that won't bleach out may cause streaky fabric

• Weathering and the development of microorganisms appear to affect cotton color permanently

By S. A. SIMON
C. HARMON
Chicopee Mfg. Co.

THERE ARE COLOR GRADES of cotton that resist bleaching and dyeing to an extent that harms the quality of the end product. The difficulty in bleaching and dyeing cotton increases with the lowering of color grade, and in many cases mills have to limit the amount of poor-color cotton they will buy.

When cotton is bleached, it behaves in one of these three ways:

1. With better-quality cottons where initial whiteness is already high, the reflectance is generally lessened as a result of kier-boiling. After bleaching, maximum whiteness is readily attained.

2. With a dull cotton, initial color is lower and kier-boiling hardly makes a difference. Bleaching elevates the whiteness level but does not bring color up to that of the better-quality cottons.

3. Gray cotton, where the initial color is very poor, is generally benefited by a kier-boil. Even after bleaching, however, the reflectance attained is barely as good as the raw color of the best grade.

Color Has Four Sources

There are four sources of color in raw cotton: dirt, fiber geometrics, intrinsic color, and extrinsic color.

Dirt includes trash, foreign matter, and other impurities that are mechanically removable.

Fiber geometry, as a source of color, relates to such physical effects as curl, twist, cross-sectional shape, etc.

Intrinsic color is the inherent, genetic color of the cotton and is probably determined before the seed is planted.

Extrinsic color is the color that is developed in the cotton by its environment or other external agencies. It differs from dirt in that it cannot be removed mechanically.

The change in reflectance due to removal of dirt in general is not great but is pronounced on lower grades. After bleaching, both the raw uncleaned and cleaned cottons fall on the same reflectance curve. Dirt on the raw cotton may be a nuisance, but it is not the cause of the grayness that persists after bleaching.

Fiber geometry may affect whiteness, but solutions and films cast from the three types of cottons mentioned indicate that geometry is not the source of unbleachable dull and gray color.

Color Is a Flavone

As a result of chemical study of cotton, it seems that the coloring matter of raw cotton is most likely a flavone (an orange-yellow pigment). Flavones are removable from raw cotton by bleaching; hence, some agent other than intrinsic color is the source of the grayness remaining after bleaching. In other words, the color of dull or gray cotton that persists after bleaching is not of a genetic or intrinsic origin.

For information on extrinsic color, it is necessary to observe the action of weather on cotton. The effects of weathering have been extensively observed. Samples picked 3, 50, and 125 days after the cotton opened were color-analyzed in the spectrophotometer before and after bleaching. Typical curves were obtained, showing that weathering influences the color of both raw and bleached cotton and that the longer the exposure, the lower the reflectance in all cases.

Organisms Cause Discoloration

Three types of organisms develop during the weathering: Alternaria, Cladosporium, and Fusarium. The Alternaria are blackish, the Cladosporium dark brown, and the Fusarium moniliforme

nearly white. These fungi appear to attach themselves to the surface of the fiber and penetrate the walls and finally the lumen of the fiber. Severity of the weathering seems to control the extent of the discoloration.

Experiments show that if unweathered cotton is incubated with water extractions from weathered cotton containing the fungi mentioned, the reflectance curves will be very close to those obtained with weathered cotton, both before and after bleaching. Unweathered samples show higher reflectance values whether bleached or raw.

Differences in intrinsic color of the samples can be discounted because the reflectance curves show that after bleaching, all intrinsic color is removed. The conclusion is that microorganisms that develop during weathering are the cause of unbleachable color in cotton.

• **Preparation and Dyeing**

How To Evaluate ENZYMES for DESIZING

• Higher speeds in processing mean that greater care must be taken in enzyme selection. This test, tailored to textile needs, should do the job

By **HECTOR C. BORGHETTY**
JOHN T. TAYLOR
Rohm & Haas Co.

THE TREND to higher speeds in all textile operations has brought about the necessity of evaluating desizing operations in terms of greatest efficiency. When enzymes are applied at high temperatures, they are much more rapid in action; but many do not possess sufficient heat stability over a long period of time. Those of bacterial derivation, when properly formulated, can be used at high temperature to give outstanding solubilization of starch under the most streamlined processing conditions. The correct testing procedure for the evaluation of enzymes, therefore, becomes extremely important.

Continuity of operations to give greatest speed calls for desizing, followed immediately in tandem by steaming and scouring. This procedure requires enzymes that are effective at high temperatures.

Batch operations requiring desizing over a 2-hr. period are still used but do not give high efficiency and economy. Since the discovery that enzymes could be used near their thermal death point to give much more rapid digestion of starch, emphasis has been placed on producing enzymes having high thermal death points and longer periods of heat stability. Addition of salt increases this point and also prolongs heat stability.

Enzymes that are very heat sensitive are practically useless when the temperature has passed the critical heat points of the enzymes. Laboratory tests available for evaluation of enzymes are satisfactory for standardization but are not satisfactory for evaluation of different enzymes of various derivation.

How To Evaluate Enzymes

Three groups of methods available for evaluation are:

Saccharification: Reagents determine the reducing potential of the sugars formed when starch is digested with specific enzymes.

Dextrinization: This process evaluates the formation of dextrins that are widely used as binding adhesives and as sizing and finishing agents.

Liquefaction: Breaking down the viscosity of the starch gives soluble end products. In desizing, we are interested in obtaining a waste product that can be readily removed from the fabric. Liquefaction is, therefore, of primary importance to evaluate textile desizing agents.

Enzymes and Their Application

Enzymes for desizing are classified into two groups: alpha-amylase and beta-amylase. The bacterial alpha-amylase, when carefully formulated, is the quickest, the most heat stable, and the most efficient.

Bacterial enzymes that contain exclusively alpha-amylase function best with a pH of 5 to 8, with maximum efficiency at a pH of 6 to 7. Their heat stability, when they are used with common salt, is extremely satisfactory at 160° F. The digested starch products are soluble materials that can rapidly be removed from the fabric by a simple scouring. The determination of the end of digestion can be made by a standard iodine test.

Nonionic detergents can be added to the desizing liquor with no deleterious effect on the enzymatic action. These agents first assist in obtaining greater penetration of the enzyme and, therefore, better access to the starch. Second, during the subsequent scouring operation, they are right on location and become detergents.

New Method To Evaluate Enzymes

Here's a modified test to determine starch liquefying activity. The temperature (160° F.) is representative of modern textile operations and automatically eliminates many enzymes made for industries other than the textile industry but sold to the textile industry.

Test: A fixed amount of gelatinized potato starch is allowed to remain in contact with the enzyme for several minutes, and the viscosity is measured.

To determine the heat stability, two additional samples of enzymes are held for ½ hr. at 160° F., with and without the addition of an equal amount of common salt. These samples are then tested as the first sample, and the difference in activity determines the heat stability.

We thus have the effect of a heat pretreatment, the effect of the salt, and the effect of high temperature during the digesting process. All these factors are directly related to plant conditions. Preheating is done without the starch present. Starch is a protective colloid for the enzyme and would give a higher rating to indicate greater heat stability.

It is much more representative to determine the value of the enzyme in water or in saline solution. Common salt can be added during manufacture of all powder-type enzymes.

• **Preparation and Dyeing**

Carriers Help Dye DACRON FIBER

• With proper carriers, normal equipment gives excellent results in dyeing Dacron

• Color values are as good as or better than those obtained with high temperatures in pressure vessels

By **C. L. ZIMMERMAN**
J. M. MECCO
A. J. CARLINO
American Cyanamid Co.

TWO PRINCIPAL DYEING METHODS, pressure dyeing above 212° F. and carrier dyeing at or near the boil, are used for Dacron.

In spite of some disadvantages such as toxicity, difficulty of complete removal after dyeing, stream pollution, and extra cost, carrier dyeing is preferred at present. The advantages are increased exhaustion and penetration, better leveling, and in many cases improved fastness.

Carriers are chemical assistants of limited solubility that promote penetration and sorption of the dyes. Conventional equipment may be used in dyeing Dacron by this method.

CONTINUED ON PAGE 202

• Finishing

FLAME RESISTANCE Improved With THPC

- This product, while not yet in general use, has undergone extensive tests
- Durability combined with acceptable hand is a great step forward

By JOHN D. GUTHRIE
GEORGE L. DRAKE
WILSON A. REEVES
Southern Research Laboratory,
U. S. Dept. of Agriculture

TETRAKIS (hydroxymethyl) phosphonium chloride $(HOCH_2)_4PCl$, abbreviated as THPC is an unusual chemical that gives durable flame resistance to hydrophilic fibers.

At present, it is available in small quantities from one manufacturer. It is expected that increasing interest will permit full-scale production at a price low enough for commercial use.

For use in processing cotton, THPC is mixed with triethanolamine, methylolmelamine, and urea in aqueous solution. The solution is applied in a pad having good pressure to keep the wet pickup as low as possible. Two nips are often desirable. The fabric is dried at a relatively low temperature and cured at an elevated temperature; it is then washed by any standard procedure.

A softener is a desirable addition to the treating bath, or it may be applied in final finishing.

Typical Application On 8-Oz. Cotton Twill

Preparation of solution:

1. 1,868 grams THPC (95%) is dissolved in 1,800 grams of water and 338 grams of triethanolamine added.
2. 1,069 grams of trimethylolmelamine (unmethylated) and 1,114 grams of urea are dissolved in 5,062 grams of water.

Solutions 1 and 2 are mixed and the goods padded two dips and two nips to a pickup of 71.5%.

Goods are dried at 185° F. and cured at 288° F. for 4.5 mins. They are washed in a winch, first with cold water, then with hot water containing 0.1% Duponol LS flakes. Then they are rinsed, dried in a slack dryer, and padded through a 4% solution of a cationic softener at 50% pickup.

Properties of Treated Fabric

The goods treated in this way contained 16.6% resin, which withstood repeated dry-cleanings and launderings.

Char lengths in the standard vertical flame test was 3.5 ins. with less than 2 secs. after-flame.

The fabric showed some after-flame along cut edges when a match was applied while the fabric was held in certain positions. Apparently, about 20% resin content would be needed to prevent after-flame in this fabric.

The finished fabric, after softening, retained about 100% of its original warp tear strength (Elmendorf) and 100% of its original warp breaking strength.

Tips on Processing

Processing may be continuous or step by step, but in any case the full procedure is necessary. It is best to use a two-nip pad with good pressure. Drying is done at low temperatures as soon as possible after padding. High-temperature drying (above 280°) causes surface curing before the body of the fabric is dry. Slack drying gives a softer hand than drying under tension. Overcuring at temperatures above 285° F. tends to reduce tear strength.

The resin content required for a specific fabric had best be determined by laboratory trials. Generally, the heavier fabrics require less than lightweight fabrics. Variation in construction and weight will affect the hand and flame-resistant qualities. Viscose fabrics treated with THPC had good hand and crease resistance; a napped viscose flannel gave particularly good results. A 6.5-oz. cotton oxford, a 4-oz. percale, a marquisette, and a cheese cloth all showed noticeable stiffness.

Amounts of THPC necessary to pass the Class I flammability test do not noticeably affect hand, and many fabrics are put in this class by adding 10% or less resin.

Experiments showed that a 32-oz. duck belting will pass the standard vertical flame test with only 10% resin, whereas a 2-oz. marquisette requires 32% resin.

Durability of the flame resistance to laundering is excellent, particularly where synthetic detergents are used. After 15 launderings with Igepon T followed by a laundry scour in accordance with Federal Spec. CCC-T-191-b, Test No. 5556, fabrics treated as described passed the standard vertical test. Analysis showed little or no resin loss.

Desirable side effects include improved crease resistance and mildewproofing.

The THPC resins reduce tear strength slightly but have little effect on breaking strength.

Preliminary tests indicate that the THPC process as applied to tentage fabrics and outerwear does not produce dermatitis, but more thorough testing is recommended if it is applied on fabrics used in intimate contact with the skin.

• Finishing

NITRILE LATICES Increase Fabric Wear Life

- The application of nitrile-rubber polymer on fabrics or yarns from the latex state does not change the hand of the fabric, yet it increases the desirable properties
- Improved properties include abrasion resistance, fastness to crocking, and tear strength

By NEIL H. SHERWOOD
B. F. Goodrich Chemical Co.

RUBBERS and rubber latices have long been used as a finish to increase the serviceability of wear life of fabrics, but the finishes have generally been rubbery coatings that change the appearance and hand of the fabric.

Recently, however, it was found that nitrile rubber polymer deposited on the fabrics or yarns from the latex state increases wear life without changing the fabric hand. And because nitrile polymers have a high affinity for fibrous material, especially cellulosics, they are particularly resistant to laundering. These properties endow nitrile latices with a vast potential for textile-finishing applications.

An emulsion of nitrile polymer in water was recently used for improving the wear life of blue denim. With butadiene-acrylonitrile as the finish, the abrasion resistance after five launderings was definitely above any other polymer latex evaluated in this study. In another study with huck toweling, the treated fabric ran 2½ times as long as the untreated control on the Stoll flex test; these fabrics were laundered 75 times before testing in solutions containing bleaches

Latex Warp Size Applied On Cotton Slasher

Work at the Southern Research Institute proved the feasibility of using an emulsion of nitrile polymer in water to replace starch as a warp sizing for blue denim. Alabama Mills, Inc., slashed the warp with latex and wove denim fabric

CONTINUED ON PAGE 202

• Printing

FAST-COLOR PRINTING Makes Gains

• Faster, more-economical prints are now possible

• Vat dyes, azoic dyes, leucoesters of vat dyes, bonded pigments, and special types of dyes all have their own characteristics and each can be used to advantage in a given situation

By **RAYMOND W. JACOBY**
Ciba Co., Inc.

THE MATERIALS used for fast-color printing can be divided into five groups: vat dyes, azoic dyes, leucoesters of vat dyes, bonded pigments, and special types. Each group has its own special formulation, fixation or development process, and effects from various finishing treatments; and each has its advantages and disadvantages.

Vat dyes are used extensively in fast-color printing and are available in such a wide range of shades that practically any color combination can be produced.

In conventional vat-dye printing, the print paste contains vat dye, thickener, alkali, reducing agent, and humectant or solvent. The cloth is dried immediately as it leaves the print machine and is then passed through an air-free steam chamber. The ageing process, however can cause some difficulties. Too much time between drying and ageing can cause the cloth to heat up, with resulting decomposition of the reducing agent and loss of color; or the cooling off of the edges of the unaged cloth can cause an uneven moisture content across the width of the goods, resulting in side-to-center shading.

Leucoesters Used For Light Shades

The leucoesters of vat dyes are applied in a water-soluble form and are developed by oxidizing agents in the presence of acid. They are particularly suitable along with the stabilized azoics that are also developed by acid ageing.

Although leucoesters require less-expensive print pastes than vat dyes, they are themselves more expensive than vat colors. Because their use is limited by solubility, these dyes are used mostly for light shades.

The leucoesters can be used for smooth prints on difficult-to-dye fabrics; for shading stabilized mixtures of diazo compounds and naphthol to prevent cross-coupling; and as resist prints under aniline black, vat pad-dyeings, and naphthols. They are less sensitive to ageing and developing conditions than vats. Since they can be developed by light, they can be used for photoprinting. They can be resisted with alkalis or reducing agents.

Insoluble Azo Dyes Make Good Ground Shades

The insoluble azo dyes are important for ground shades in discharge or resist printing and in application printing. Because these dyes can be applied in many ways, they can be used with vat dyes, leucoesters, or resin-bonded pigments. They are ingrain types, since the insoluble azo compound, produced by coupling fast-color salts with naphthols, is formed in the fiber.

As ground shades, they are applied in the conventional manner and discharge-printed with vat dyes. In resist printing, the naphthol is applied before or after printing and then fast-color salts are applied to produce the ground shade where no resist is present.

Several methods are available for application printing:

Two-step Process

Pad the cloth through a naphthol solution and dry. Nonsubstantive naphthols should be used because they wash from the printed areas. Print with solutions of fast-color salts for coupling, which takes place almost immediately.

Vats, leucoesters, and pigments can be used with the fast-color salts. When vat dyes are printed with fast-color salts, a mild oxidant like metanitrobenzene sulfonate should be added to the print paste to prevent the salt from being affected by the sodium sulfoxylate formaldehyde used in the vat-color print paste.

Naphthols and Diazo Compounds

Naphthols and diazo compounds with a stabilizing agent form a mixture that prevents coupling until an aftertreatment is given.

A range of naphthols can be used with the various diazo compounds, whereas in the two-step process only one naphthol is suitable with all the fast-color salts. A variety of shades can be produced by mixing different naphthols with one diazo compound. A short acid ageing after printing enables coupling to take place and the final shade to develop.

Salts and Naphthols

Another insoluble azo-dye type is in the process of development. This type consists of mixtures of fast-color salts and naphthols that have been coupled and solubilized. After printing, the insoluble azoic product is developed by alkali treatment.

This insoluble azo-dye type offers several advantages:

The dyes are fixed by neutral ageing and hence can be printed alongside vats;

CONTINUED ON PAGE 204

• Printing

Printing GLASS FABRICS Gives Unusual Results

• Machine or screen methods can be used successfully

• Special resins in conjunction with metallic soaps give washfastness

By **R. F. CAROSELLI**
Owens-Corning Fiberglas Corp.

GLASS FABRICS are translucent and when printed with pigmented opaque resins are capable of effects not possible with conventional fibers.

To prepare glass for printing, it is first Coronized to remove size, lubricants, and other organic impurities. Coronizing is done at 1,200° F. in a muffle oven, and the fabric emerges with a soft hand and a permanent crimp in the fibers.

To reduce abrasion, a protective finish is applied on a pad immediately after the fabric leaves the heat-set oven. The finish is a polyacrylate latex emulsion with a Teflon dispersion. After drying, the fabric is ready for printing, which can be done by machine or screen methods. Resin-pigment combinations in either water-in-oil or oil-in-water emulsions are used. The preference of machine printers is for the water-in-oil type of emulsion, although either system works well.

Two Pigments Are Available

Not all resin-pigment systems work well with glass, and to date only two are commercially available. One, for water-in-oil systems, is based on epoxy resin emulsions. For the oil-in-water method, latex emulsions are used. Both require aftertreatment for good washfastness. Curing after printing is the first step and is done at 300° F. for 3 to 5 mins. with the goods in the open. A tenter frame is not recommended for this operation; but if one must be used, the fabric must be kept loose in the frame to avoid torn selvages.

After curing, the fabric is padded in a 5% solution of stearato-chromium chloride, which imparts washfastness. Pickup should be 25 to 30%. Care should be taken that bubbles or ripples do not en-

ter the nip and cause cracks in the goods. The fabric passes from the pad to a curing oven, where it must attain 300° F.

Rope soaping with a mild detergent follows for 5 mins. at 120° F. An open soaper may be used. Nip drives should be avoided whenever possible to prevent cracking. If care is taken to avoid cracking and allowances made for the fact that glass doesn't stretch, the usual methods used in printing organic fibers may be followed.

• **Waste Disposal**

Where the Federal Government Stands On Stream-Pollution Laws

By LEWIS A. YOUNG
U. S. Public Health Service

AN IMPORTANT OBJECT of water-pollution control programs is to establish and maintain economic balance among all the reasonable water users, including the use of the stream for waste disposal . . .

The Federal program does not duplicate State efforts but implements State programs . . .

It is not the policy of the U. S. Government to work directly with individual industrial plants for the solution of their industrial-waste problems . . .

The enforcement provisions of the Federal Water Pollution Control Act are applicable only regarding interstate pollution . . .

• **Waste Disposal**

Synthetic Sizes Can Eliminate WASTE TREATMENT

• If you don't use starch, you don't have to desize; and desizing is the big problem in waste treatment. Experiments with carboxymethyl cellulose (CMC) as a warp size look promising from the pollution standpoint.

By DUANE SNYDER
Crompton-Shenandoah Co.

IN-PLANT PROCESS changes to reduce pollution loadings often show savings in production costs, and that's how we are approaching the problem.

Our total biochemical oxygen demand (B.O.D.) loading from the finishing plant averages 3,000 lbs. per day. Of the many treatment methods investigated, the most economical is high-rate biological filtration without prior chemical modification. Such a system might have an efficiency of 75 to 80% and would require a capital investment of $250,000, with operating costs of $10,000 per year.

Start at Slashing

The major source of pollution is the desizing process, and the problem must be attacked from the standpoint of the slashing operation.

Certain film-forming materials exhibit relatively low B.O.D. values. It is possible to reduce pollution stemming from the desizing process tremendously by replacing the starch or starch derivatives with one or more of the synthetics having low B.O.D. values.

The B.O.D. loading from the finishing plant was made up as follows: 52.5% from desizing, 37.2% from dyeing, and 10.3% from bleaching.

How Synthetic and Natural Sizes Compare

Product	B.O.D. (ppm.)*	Lbs. of B.O.D. per lb. of material
Methylcellulose	1.6	0.0016
Carboxymethyl cellulose	9.0	0.009
Polystyrene derivative (Stymer)	12.0	0.012
Polyvinyl alcohol (89½ hydrolysis)	16.0	0.016
Corn starch (acid modified)	477.0	0.477
British gum	690.0	0.690

* on 1,000 ppm. solution

The major drawback in using a synthetic compound in cotton slashing has been the cost; but when the high cost of waste treatment is considered, it seems logical that low B.O.D. replacements can be found. Dan River Mills, Inc., had used polyvinyl alcohol and carboxymethyl cellulose sizes and found that weaving properties were equivalent to those with starch sizes. Dan River Mills and Crompton-Shenandoah agreed to exchange information, and weaving data was made available. Cost calculations determined that it would be practical to use a product as a size if it cost no more than 40¢ per lb. and could be used from a solution of not more than 6% solids and a yarn solids pickup not to exceed 15%. The search for a suitable material to meet these requirements yielded a likely possibility in carboxymethyl cellulose.

Plant-scale experiments were conducted on warps totaling 5,000 yds., one-half being slashed with 5.5% CMC and the remainder with a 65 to 35 ratio of starch to CMC. This ratio does not require the use of enzymes for sizing removal.

Results Were Encouraging

The fabrics woven from the experimental warps were processed in the finishing plant under careful observation. At the point of desizing, samples of the effluent were analyzed for their potential B.O.D. The expected lowering of the B.O.D. by using the CMC slashing formula was realized. Reduction in B.O.D. was directly proportional to the degree of substitution of CMC for starch. Further investigations of other materials exhibiting low B.O.D. values are currently under way. Continuation of the first experiment is now in process with 30,000 yds. being slashed with a 65 to 35 mix of starch and CMC. The chemistry of various starch derivatives is being studied to determine their relationship to biochemical oxidation along with other available synthetic compounds.

Dyeing Comes Next

Dyeing is the second major source of pollution. Large quantities of acetic acid cause high B.O.D. loadings in the stream. Substituting mineral acids for acetic acid in various dyeing processes is one means of eliminating this source of pollution. Ammonium chloride and ammonium sulfate can be used in simultaneous neutralizing and oxidizing of vat and sulfur colors in conjunction with sodium bichromate. Twenty per cent reduction in this process, plus 45% to 50% reductions in desizing, would be sufficient in many instances to eliminate the need for treatment facilities.

The B.O.D. load contributed by the combined desizing and dyeing operations is 89% of the total. This pollution might be reduced to the extent that only 30% of the total pollution now discharged will remain. If this goal can be accomplished, the need for treatment facilities will be unnecessary. This theory excludes, of course, the need for sedimentation of dye wastes for the removal of color lakes, which normally settle to the bottom and inhibit the normal bottom life in a stream.

What To Expect From 1954 GEORGIA COTTON

First ginnings of Coker 100-Wilt cotton in southwest Georgia show that, in comparison with 1953 cotton, early 1954 Georgia cotton is—

- **Higher in grade but has shorter staple**
- **Makes more waste for the grade of cotton**
- **Makes yarn poorer in strength and appearance**

By P. M. THOMAS, Editor, TEXTILE WORLD

EARLY 1954 Georgia cotton is not as good as early 1953 cotton grown in the same area. Grade is slightly higher, but staple length is shorter. Most fiber properties and most elements of manufacturing performance are poorer, but in most cases the combination of grade and staple length account for most of the difference. One improvement is that the cotton yields less waste, but this advantage is nullified by the comparative grades. Both yarn strength and appearance are poorer.

USDA tests of fiber properties and spinning performance of first ginnings show these results, in comparison with last year's early cotton from the same area:

Fiber

Grade, staple length, and length uniformity are down.
Fineness is worse (coarser).
Maturity is slightly better.
Strength is up.
Nonlint content is down.

Manufacturing

Picking and carding waste is down.
Neps are down slightly.
Strength of 22s and 50s yarn, carded at 9½ lbs. per hr., is down.
Yarn appearance is down one-third to two-thirds of a grade.

Cotton Is Coker 100-W

The cotton was Coker 100-W grown in southwest Georgia, in the Arlington (Calhoun County) area.

The Coker strains represent 10 to 15% of the cotton grown in the United States. Next to Deltapine, it is the most important cotton grown, from the standpoint of commercial use. Together, these two varieties represent more than a third of U. S. cotton production.

Coker might be described, therefore, as something of an average upland cotton. In grade, it usually runs Middling and Strict Low Middling, which represent something like three-quarters of U. S. cotton. In staple length, it runs from about 1 in. to 1⅛ in., which represent over three-quarters of the cotton production.

The Coker strains are grown heavily in Alabama, Georgia, North Carolina, and South Carolina. A little is grown also in Tennessee, Mississippi, Louisiana, and Arkansas.

In the four main Coker-growing states, the percentages of total acreage planted to Coker in different sections of the states, according to the Research Dept. of Jones, Gardner & Beal, Inc., were:

Alabama	— North	10 (%)
	Central	61
	South	75
Georgia	— North	60
	Southwest	56
	Southeast	70
North Carolina	— West	97
	Northeast	99
	Southeast	99
South Carolina	— Northwest	97
	Northeast	98
	South	95

[CAUTION: *It is not necessarily true that early Coker cotton in southwest Georgia will be representative either of (1) mid-season or late cotton grown in that area or (2) Coker cotton grown in the other areas listed. All that can be said for certain, on the basis of the tests made, is that this year's early Coker cotton in southwest Georgia is not of as good quality as last year's.*]

How the Cotton Rates

The early 1954 Georgia cotton rates as follows, on the basis of USDA standard ratings:

Property	Rating 1954	1953
Uniformity ratio	Average	Average
Fineness	Average	Average
Maturity	Average	Immature
Fiber strength	Strong	Average
Nonlint content	Average for grade	Below average for grade
Picker and card waste	Above average for grade	Slightly above average for grade
Neps	Low	Low
Strength, 22s	Average for grade	Above average for grade
50s	Below average for grade	Slightly above average for grade
Appearance, 22s	Average	Good
50s	Fair	Average

Average Test Results, 1954

Fiber

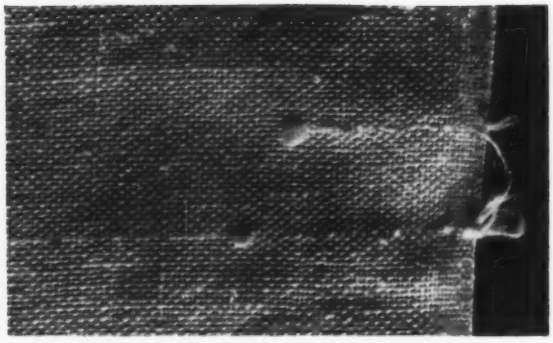
Grade	M
Staple length	1 in.
Upper half mean	1.01 ins.
Uniformity ratio	79%
Fineness	4.3 micrograms
Maturity index	76
Strength	86,000 lbs.
Nonlint content	3.7%

Processing Results

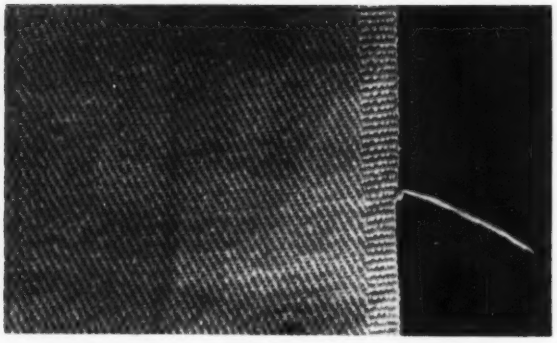
Picker and card waste	8.4%
Neps (100 sq. ins. card waste)	14
Yarn skein strength, 22s	111 lbs.
50s	37 lbs.
Avg. break factor	2,153
Yarn appearance, 22s	C
50s	C
Avg. index	95
Yarn uniformity, 22s	107 RUE %
50s	149 RUE %
Avg. index	95

(RUE % is a measure of unevenness. An RUE % above 100 and an RUE index below 100 mean that this particular cotton makes yarns more uneven than yarns usually spun from Coker 100-W cotton.)

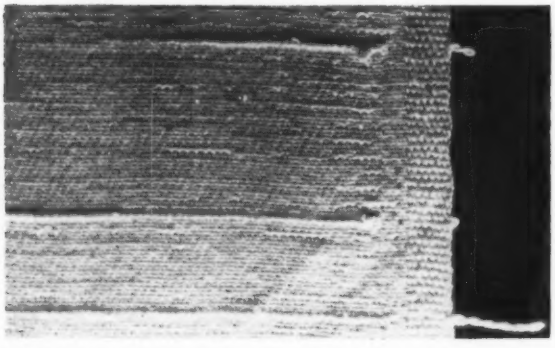
Based on fiber and spinning tests by the Cotton Div., Agricultural Marketing Service, U. S. Dept. of Agriculture.



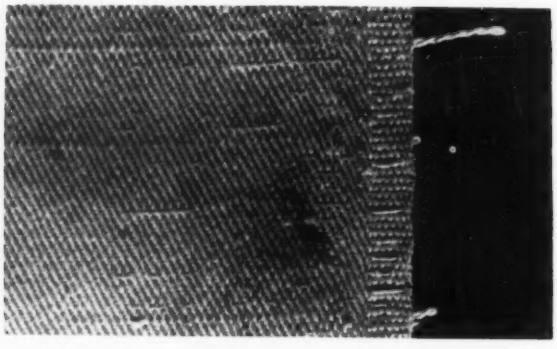
THREAD-CUTTER JERK-INS usually weave in an extra strand of filling yarn the full width of the cloth. Then the dangling end is pulled in $\frac{1}{2}$ in. later.



THE EXTRA END of yarn from the ejected bobbin was jerked into the cloth when the Stafford thread cutter failed to cut and hold the end of filling.



LOOP INS on twill weaves are caused by imperfect settings or timing of the harnesses. These defects show more predominantly on the back side of the cloth.



HARNESS SKIPS are present on the face side of twill weaves when loop-ins are made. To eliminate the defect, synchronize the harness and tape-selvage motions.

How To Eliminate JERKED-IN

▶ In contrast to most common cloth defects, jerked-in filling is a weave-room-made defect. The responsibility for preventing the jerk-ins lies directly on the weave-room supervisors, loomfixers, and weavers.

By W. C. WESTBROOK
Consulting Editor, TEXTILE WORLD

JERKED-IN FILLING is one of the most provoking fabric defects on battery-operated bobbin-changing looms. Stafford-type and temple thread cutters must be watched closely and set correctly to keep jerk-ins to a minimum. So many other things cause the defect that it is one of the principal problems of the weaver and loomfixer.

There are several distinct types of jerk-ins; and, although they are somewhat similar in appearance, an experienced loomfixer can usually look at a sample of the defect and classify it. Then he can locate the trouble at the loom quickly. For this reason, it is important for the cloth grader to specify the type of jerk-in on her report to the loomfixer or furnish him a swatch of cloth containing the defect.

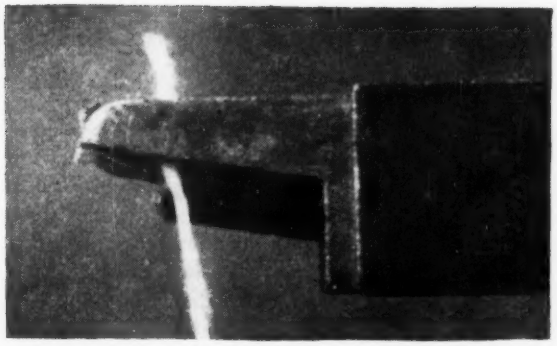
Sometimes a defective filling bobbin will cause jerk-ins, but jerk-ins are almost exclusively a weaving defect.

Transfer Jerk-ins Are Worst

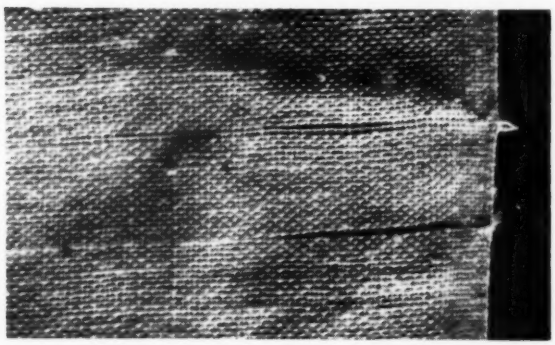
Most jerk-ins occur during the transfer of filling. If the Stafford thread cutter fails to cut the end of filling from the exhausted bobbin, this end of yarn will be jerked back into the warp shed.

When the exhausted bobbin is ejected from the shuttle, one end of the filling is attached to the woven cloth and several yards of yarn are left on the bobbin (when a filling feeler is used). As the shuttle is picked back through the warp shed, the strand of filling from the fresh bobbin is threaded into the shuttle eye, which still retains the end from the exhausted bobbin. The strand of yarn from the exhausted bobbin is then deposited in the shed to form a jerk-in.

The jerk-in is often doubled. Sometimes the extra end is only a few inches long, but it often extends the full width of the cloth.



CORRECT OPERATION of the thread cutter shows the filling end cleanly cut and held. On the next bobbin transfer, the yarn will be dropped.



CORRECTING JERK-INS by pulling them out of the cloth often leaves cracks worse than the original defect. The remedy is to fix the looms.

Filling

Other Motions Make Jerk-Ins

The Stafford thread cutter can be in perfect condition and timed and set correctly, and yet it will be useless if the strand of filling is not in the correct position to be cut by the thread-cutter knives. When the shuttle bounces in the shuttle box, for example, the thread cutter cannot enter the slot in the shuttle and will not hold or cut the yarn.

Sometimes the shuttle bounces just enough to cause some slack in the yarn but does not bounce enough to interfere with the thread cutter. In these cases, the thread cutter misses the yarn. A third-end catcher will help hold the yarn in the correct position to be cut and will also hold the end out of the shuttle box after it is cut.

If the Stafford thread cutter cuts the yarn but does not hold it, the shuttle will jerk the end back into the shed. If the end is cut and the ejected bobbin does not pull the end of yarn through the shuttle eye as it drops into the bobbin box, the end will also be jerked into the warp shed.

If the shuttle is not centered in the shuttle box, the ejected bobbin will strike the side of the lay-end plate or picker-stick guide and the end may not be pulled out of the shuttle eye soon enough. Exhausted bobbins are sometimes allowed to accumulate in the bobbin box until it is full; then the ejected bobbin does not fall far enough to pull the cut end of yarn through the shuttle eye, and a jerk-in is made.

Look for Improper Settings

Other loom motions can be set improperly to keep the Stafford thread cutter from operating correctly. A few of the improper settings are:

1. A picker not aligned with the lay for the full stroke of the picker stick
2. A race place or a lay-end plate not lined correctly
3. A warp shed of the wrong size or height
4. A shedding motion or tape-selvage motion out of time
5. Incorrect shuttle boxing

When the Stafford thread cutter is working correctly, it will cut the yarn, drop the yarn on the exhausted bobbin, and hold the end extending to the selvage of the cloth. Then the temple thread cutter cuts the yarn end at the selvage, and the end hangs from the Stafford thread cutter until another bobbin of filling is transferred.

When weavers are patrolling the weavers' alleys, they should inspect each thread cutter for holding and cutting the yarn. If no filling at all or if a bunch of filling is held, the loom should be flagged for the loomfixer.

A single strand of filling with a cleanly cut end held upright in the Stafford thread cutter is a good indication that the thread cutter is operating correctly. However, this inspection does not mean that no jerk-ins are being made. Close and constant inspection of the cloth is the only safeguard against these defects.

Four Main Causes of Jerk-Backs

Jerk-backs differ from jerk-ins in that they are usually a wad of filling yarn jerked into the shed; sometimes they leave a strand or loop of yarn hanging from the selvage. Jerk-backs are made several ways. Four common causes are:

1. Filling yarn catches on a rough place on the picker, binder, shuttle box, or back-box-plate extension. Then the yarn pulls loose and is drawn into the warp shed by the shuttle.
2. Filling yarn loops around the filling-fork tines on side-fork looms. The loops are caused by a bent tine, a filling fork out of adjustment with the grate, or by too-little shuttle tension letting the yarn drop under the fork tines.
3. Stafford thread cutters set too far forward so that they do not drop the strand of filling at each transfer but release the strands in bunches that are drawn into the warp shed by the shuttle.
4. Dull or otherwise inoperative temple thread cutters that let yarn dropped by Stafford thread cutters be woven into the shed. This condition also causes stringy selvages on the battery end of the loom.

Control Loop-Ins and Wild Yarn

Another type of jerk-ins is loop-ins. Loop-ins are usually about 2 ins. long and are found in fabrics woven with tape selvages. Small overshots are usually made in the cloth near the selvage when this type of jerk-in is made. The loop-ins are caused by the shed closing on the filling yarn before all the slack is drawn out of the yarn from the shuttle. The loop is formed in a bunch of yarn near the right-hand selvage.

To eliminate the loop-ins, synchronize the tape-selvage motion with the regular harness motion.

Some jerk-ins are caused by wild yarn. This yarn can come from several sources. Six common sources are:

1. Filling yarn cut by the thread cutters and blown or drawn into the warp shed

CONTINUED ON PAGE 190

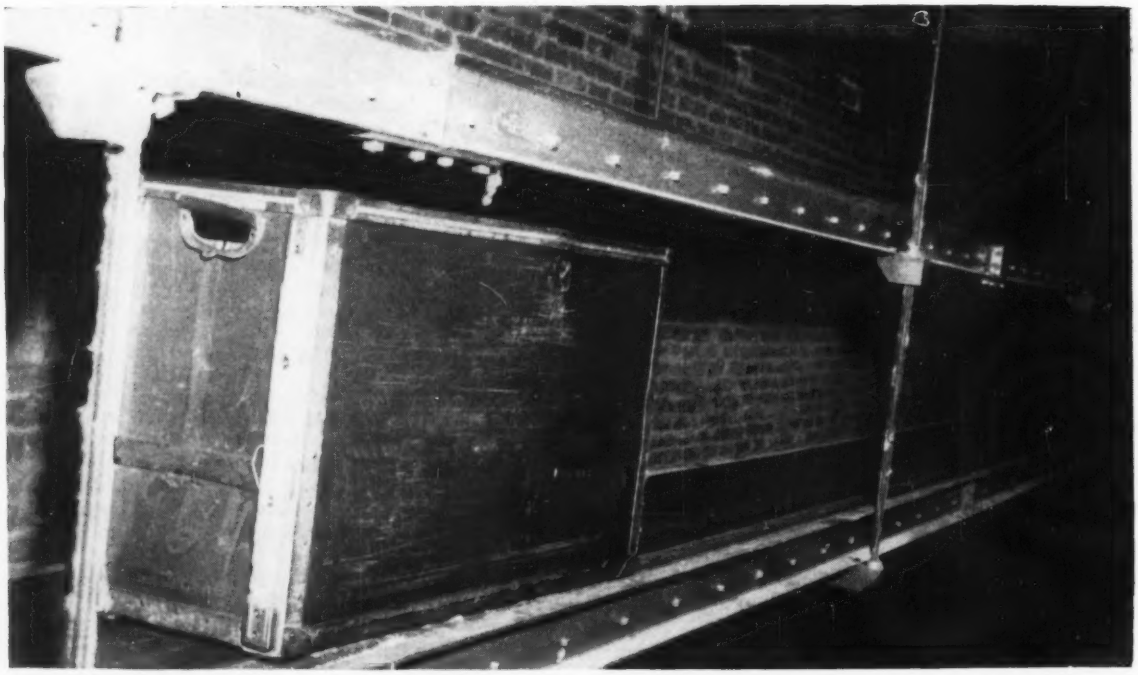
Under-Floor BOBBIN-BOX CONVEYOR

► **Between the far end of the spinning room and the Abbott-winding room at Rocky Mount Mills, a double-deck conveyor travels underneath the floor for 735 ft. At the near end, a simple inclined conveyor connects the two rooms.**

By THOMAS B. WINSTON
Assistant Editor, TEXTILE WORLD

At Rocky Mount Cotton Mills, Rocky Mount, N. C., the Abbott-winding room is on a separate level from the spinning room. This situation created a bobbin-box-handling problem that was perfect for a conveyor system to solve. At the end of the spinning room next to the Ab-

LOWER-LEVEL ABBOTT ROOM is supplied by an under-floor powered conveyor belt from the far end of the spinning room and an inclined conveyor from the near end. The upper conveyor comes from floor level. The power conveyor is controlled from the spinning room.



DOUBLE-DECKED CONVEYOR underneath floor of spinning room travels 735 ft. to spooler room. The lower level transports boxes of empty bobbins; the upper level carries boxes of full bobbins. An extra belt, four-ply and weighing 1,800 lbs., is kept on hand.

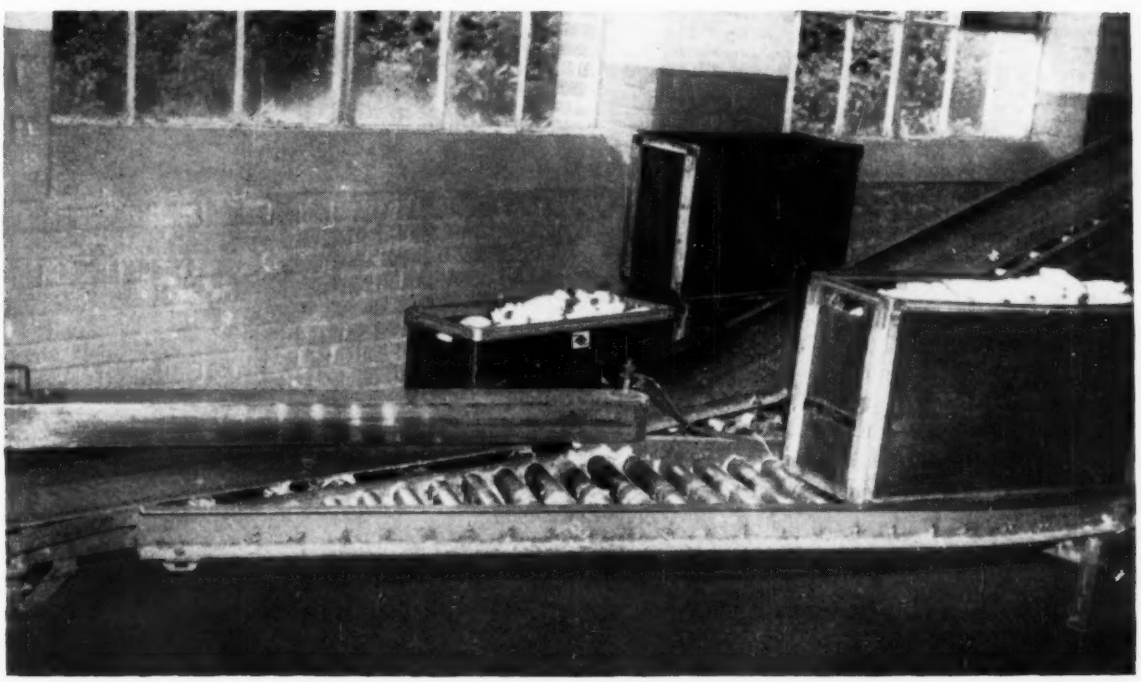
Solves Two-Level Handling Problem

bott room, a door was cut and a simple inclined conveyor installed; but what about the other end? The answer was a double-deck conveyor that runs 735 ft. underneath the spinning-room floor. The entire system was designed and installed by Mathews Conveyor Co.

The conveyor handles about 54,000 lbs. of yarn on a three-shift day. It was designed to handle the bobbin boxes in use.

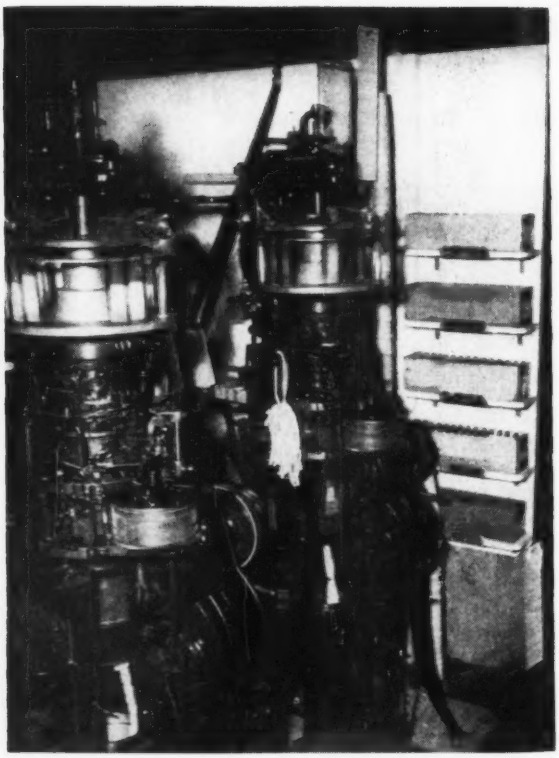
Two features of the loading and unloading station in the spinning room are: photoelectric eyes that operate a pneumatic hoist to open the doors, and a conveyor-roll cut-off switch that keeps boxes from piling up on the inclined section. The belt runs 30 secs. before stopping; so it doesn't stop when a box passes over the cut-off roller. But when a box stops on the switch, the belt comes to a stop until the boxes are removed.

LOADING AND UNLOADING STATION in spinning room has a storage area in front and behind. On the elevated incoming station (right), the second conveyor roll is a pressure switch that cuts off the conveyor when boxes pile up. The doors work automatically.



SWITCHING BAR in spooler room is moved across conveyor belt to move bobbin boxes into the supply area for one end of the room. The power conveyor continues on around the wall to the opposite end to the second supply area. Twelve Abbott 164-spindle winders are kept in supply.

YARN RACKS at the end of each line of knitting machines keep yarn clean and tidy. Socks are placed in bags after knitting.



SHELVES on the back of the yarn rack hold wrap yarns and needles. Instruction cards and order tickets hang on the machine.

7 Ideas That Raise HOSIERY EFFICIENCY

Seconds are kept low and production high with these ideas:

- **Yarn racks at each knitter's alley**
- **Oil splash guards on knitting machines**
- **Canvas bags to keep socks clean**

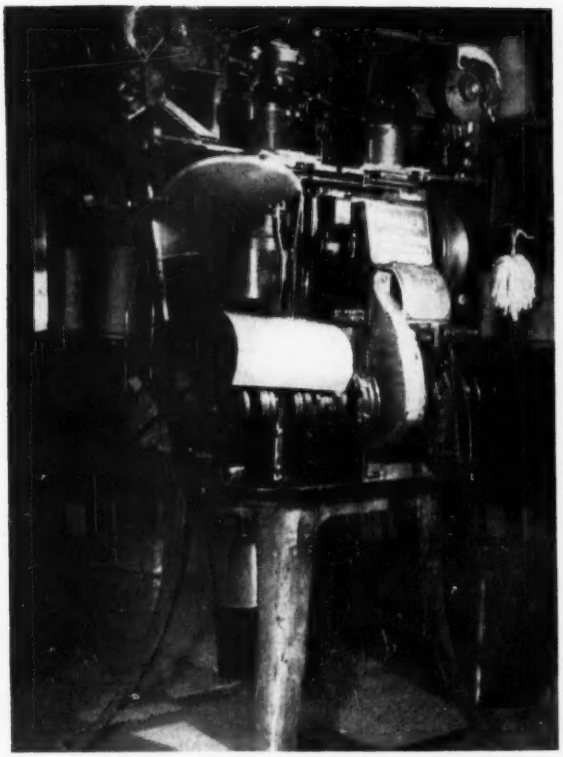
By JAMES H. BLORE, Associate Editor, TEXTILE WORLD

1. Yarn Racks Help Quality

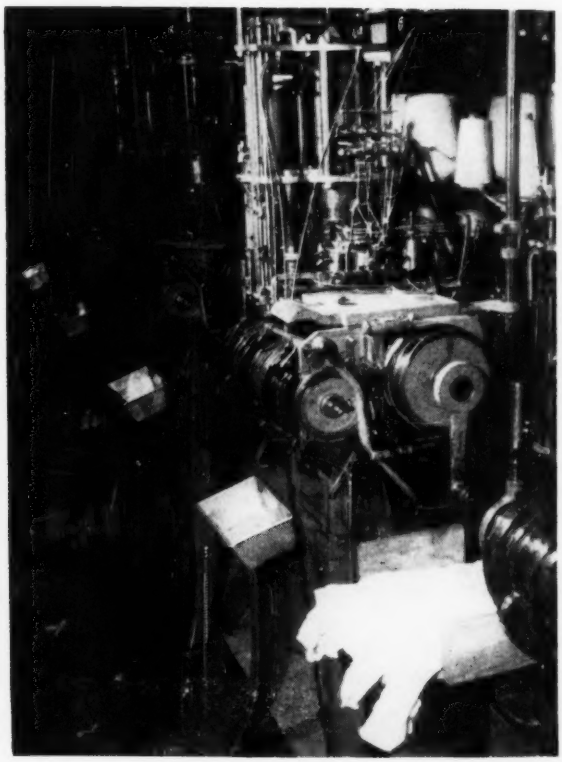
A yarn rack at the end of each line of knitting machines in one mill keeps the knitter well supplied with yarn at all times. The rack keeps the spare yarn off the floor and machines and keeps it clean and in good condition for knitting. The foreman is able to keep a close check on the yarn supply, and inventory taking has been simplified.

The racks take up very little space. They are made of five-ply board and hold 70 or 84 full cones of yarn. The cone holders are 6x½x¾-in. brackets bent to a 45° angle and screwed to the board in lines 10 or 12 wide and seven deep. The rack is bolted to two 2x4-in. uprights and supported by an angle-iron bracket fixed to the floor near the machine shaft.

One yarn rack supplies each knitter's alley, or 30 machines. Only yarns



GUARD over the main drum prevents soiling of socks as they are removed from the machine. The top plate keeps the guard oil free.



TABLES between machines keep socks clean until they are bagged. Tray on machine holds waste and broken needles.

for these two sets of machines are stored on the board. The knitters keep the yarn board replenished from the stock room and check to see that the board is full at shift changes. Knitters have worked out systems to keep various yarns, such as rubber and splicing yarns, separate from the main yarns.

Hooks screwed to the lower part of the board support stout canvas bags. As each dozen socks are knitted and inspected, they are placed in the bag to keep clean.

As each knitting lot is completed, the order ticket is fixed to the cord at the neck of the bag and the cord is drawn tight. A clip on the cord prevents the bag from opening and spilling its contents.

Shelves behind the yarn board hold boxes to keep wrap yarns, needles, sinkers, and other spare parts neat and tidy. A metal plate screwed to each shelf prevents the boxes from falling off the shelves.

2. Empty Cones Kept Tidy

Two metal cones are screwed to the floor behind the yarn racks to receive empty cones. One fixture is for cotton cones and the other is for nylon cones. The foreman can easily check if too much waste is left on cones.

3. Instructions Cut Errors

Hooks on a bracket above the knitting machines hold order tickets, work tickets, and instruction cards. The brackets are screwed to the machine in an eye-level position. These instruction cards are contained in a transparent holder, and when not in use they hang in the production office. The cards show the style number, color combinations, and yarns; and they reduce knitting errors.

4. Shields Keep Work Clean

A galvanized shield over the main drum of Banner SCP machines prevents soiling of socks as they are removed from the machine. A tray fixed to the selector-drum base keeps oil off the lower guard. A shield at the back of the cylinder keeps oil from splashing on the yarn, and it keeps the yarn clean when lint is blown from the machine.

5. Trays Hold Waste

Each Komet machine has a tray fixed to the bottom frame to hold waste, broken needles and sliders, and spare links. A table at every third machine keeps socks off the floor and sorted ready for bagging.

6. Alleys Cleaned Often

The floor under the knitting machines is painted with battleship-gray bakelite seal, and the alleys are treated with Selig seal. A utility man cleans each alley twice during every shift.

7. Knitters Wear Gloves

Knitters working on nylon socks wear nylon tricot gloves to reduce picks. Hand lotion is supplied to keep knitters' hands soft and smooth.

A suggestion system in one plant provides management with many new ideas. The minimum award for a suggestion is $10; and this system, coupled with the management's good-housekeeping program, has a strong influence on everyone to keep the plant tidy and efficient.

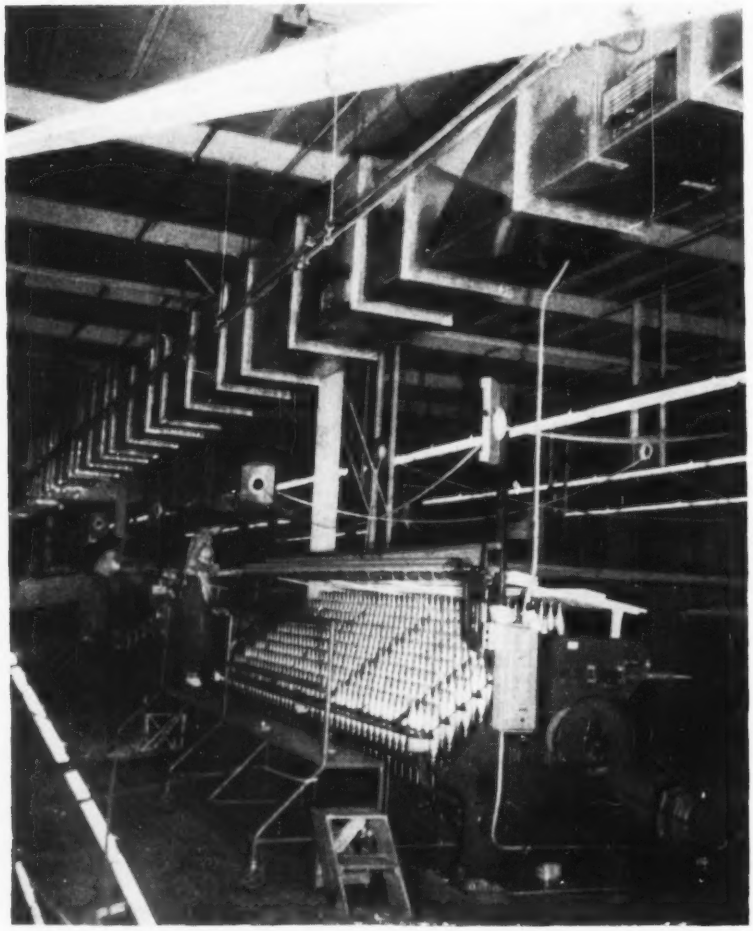
AIR-CONDITIONING System Pays Off in Employee Comfort

▶ The air-conditioning system at the new Coats & Clark yarn and thread finishing plant serves the entire plant, over 378,200 sq. ft. of floor space. The wet-finishing area, cooled by water evaporation, has a maximum temperature of 85° F. Other processing areas, laboratories, and offices are cooled by refrigeration; and temperatures are maintained at a maximum of 80° F.

By **MICHAEL LONDON,** Assistant Editor, TEXTILE WORLD

THE NEW Coats & Clark, Inc., yarn and thread finishing plant at Toccoa, Ga., is air conditioned throughout. According to A. J. Morse, plant manager, the comfort factor will have much to do with good personnel relations and the procurement of good workers. The system, which cost over $500,000, serves the entire plant area, over 378,200 sq. ft.

The maximum temperature in the dyehouse is 85° F., the quilling department is maintained at 80° F. and 56% relative humidity, and the gassing department is kept at 80° F. and 50% relative humidity. When the plant started production, the air-conditioning system was not in operation; the difference in the workers' attitude and productivity has been remarkable ever since the system began to operate.



QUILLING DEPARTMENT is served by ducts delivering refrigerated air and atomizers to maintain a relative humidity of 56% and a temperature of 80° F.

All areas except the wet-finishing department are served by refrigerated air. The wet-finishing department—which includes a mercerizer, package-dying machines, and extractors—is serviced with air cooled by water evaporation. A refrigeration-control operator and a mechanic are required to maintain the system.

Part of the refrigeration load is used for chilling water for processing. Heat exchangers are used for heating or cooling processing liquids and can cause a 2° F. per min. change in the temperature of the liquid.

The air-conditioning equipment was made and installed by Bahnson Co. according to specifications by P. L. Davidson, consulting engineer, Greensboro, N. C.

Two Systems Service Wet-Finishing Department

The wet-finishing area, on the first floor of the plant, is serviced by two air-conditioning systems. The conditioning equipment—consisting of air washers that provide ventilation, air cleaning, heating, evaporative cooling, and humidity control—is installed in two penthouses on the roof. Each penthouse has an air washer handling 150,000 cu. ft. per min., with stainless-steel eliminators and baffles, aluminum duct work, and grills with stainless-steel frames.

The wet-finishing area is also equipped with various hood exhaust systems and general exhaust systems. The mercerizer has a stainless-steel-

duct exhaust system with three stainless-steel axial-flow fans, each handling a maximum of 45,000 cu. ft. per min.

The wet-finishing department is partitioned into two rooms. Each room has 32 single and 16 double air-delivery ducts. The wet-finishing area is also occupied by offices on the main floor and on the mezzanine, which also contains a chemical laboratory. These units are fully conditioned by refrigerated air.

Air Provided for Basement

In a basement directly below the wet-finishing department are the pumps and other wet-finishing auxiliary equipment. Two pressure-extractor exhaust systems made of stainless steel are powered by two fans with capacities of 33,600 and 20,000 cu. ft. per min. The exhaust is discharged through the roof.

The general basement area is served by two large stations, each with a 100,000-cu.-ft.-per-min. air washer and axial-flow fans, two to each station. Aluminum ducts handle the air, and sufficient air is provided to take care of all future needs.

Atomizers Used in Manufacturing Department

The industrial winding department on the main floor is served by a conventional roof-mounted central air-conditioning system with supplementary atomizers. Refrigeration is provided by the main centrifugal refrigeration plant. The penthouse for the industrial winding department has an air washer handling 91,000 cu. ft. per min. Humidity is supplemented by 148 atomizers.

The package-winding department is also served by a central-station air-conditioning system with 92 supplementary atomizers. A penthouse for this department contains a 68,000-cu.-ft.-per-min. air washer for full air conditioning with refrigeration.

The gassing area and the winding-and-quilling department are served from a penthouse containing an air washer. Humidity is provided by 174 atomizers, and the washer has refrigeration to provide year-round air-conditioning and humidity control. The station serving these departments has two separate duct systems, and axial-flow fans are used instead of centrifugal blowers. An axial-flow fan supplies 36,300 cu. ft. per min. to the gassing area and another supplies 40,300 cu. ft. per min. to the quilling area.

The gassing exhaust system consists of aluminum duct work with four 5,200 cu.-ft.-per-min. axial-flow fans and five 500-cu.-ft.-per-min. auxiliary fans.

DELIVERY DUCTS run the length of the wet-finishing department, which is maintained at a maximum temperature of 85° F. The air is cooled by evaporating water.

Warehouse Is Conditioned

The general warehouse, which can be converted to a manufacturing area, also has air-conditioning equipment. A roof-mounted central-station system handles 55,200 cu. ft. per min. When the area is used for manufacturing, pneumatic atomizers will be added and the air washer will use refrigeration rather than the evaporative cooling it now uses.

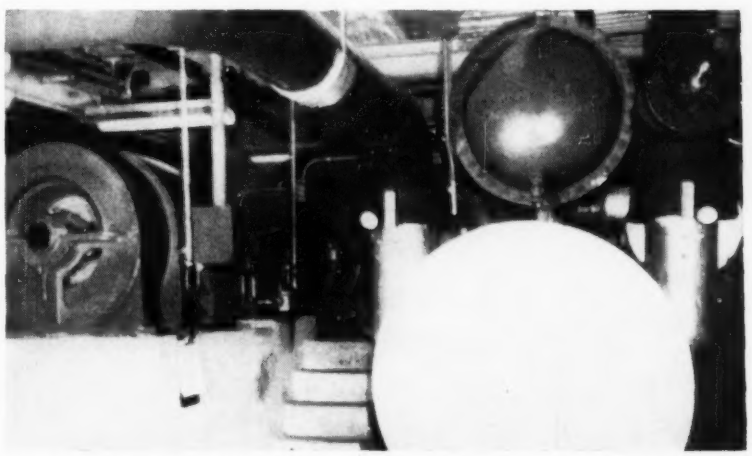
The physical-testing laboratory has one packaged air-conditioning unit with a 7½-ton capacity and four self-contained humidifiers to provide the required 72° F. and 65% r.h.

The offices and cafeteria are air conditioned by a unit with a supplementary refrigeration plant.

Refrigeration for both the air conditioning and for certain process loads is provided by two refrigerating plants. The large plant consists of an 800-hp. centrifugal refrigeration compressor rated at 875 tons. Smaller systems consist of two reciprocating machines rated at 38 tons and 92 tons.

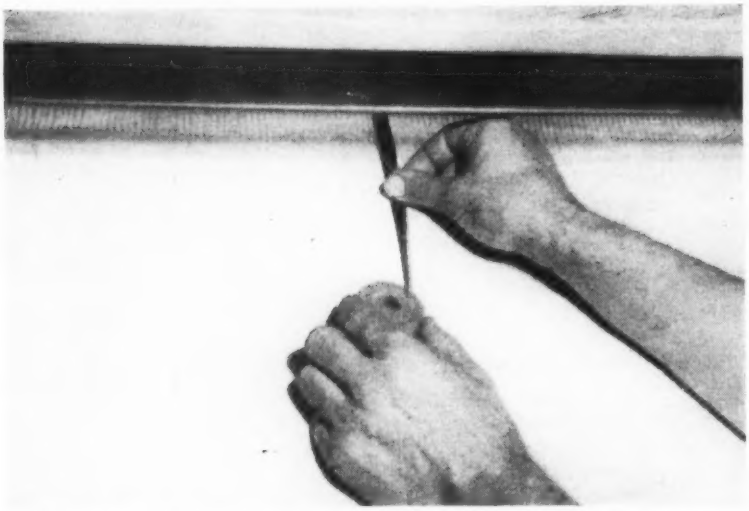
Condenser water is cooled by a central cooling tower on the roof. The tower can circulate chilled water at approximately 3,275 gals. per min. for cooling purposes.

Heating is provided by hot-water coils with heat exchangers at all main apparatus stations. Steam from the boiler room heats the water in the coils to about 280° F., and the superheated water delivers heat to the air supply.

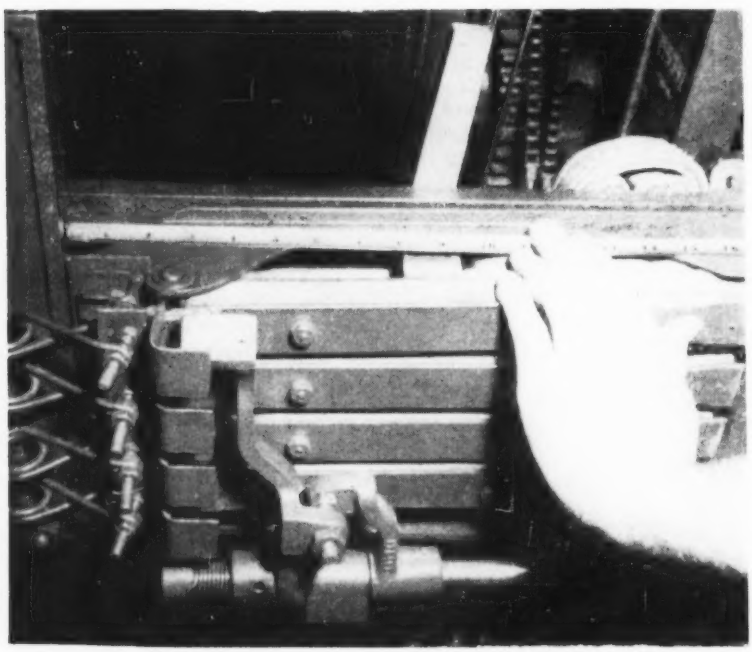


MAIN REFRIGERATION COMPRESSOR is rated at 875 tons. The unit is powered by an 800-hp. motor. Part of the output is used for cooling bleaching, finishing, and dyeing liquors.

Tips for Better Weaving On PICK-AND-PICK Looms



TIME THE PICK early and have the binders open late. On cranks with a $2\frac{1}{2}$-in. throw, set the reed $2\frac{1}{2}$ ins. from front center at the start of the pick.



SET THE STROKE so that both picker sticks have the same amount of sweep. The stroke must be the same on both arms of the picking-roll arm.

▶Small adjustments cause most of the trouble on pick-and-pick looms. Check up on those settings, and you're all set to eliminate the most-common trouble of hanging shuttle boxes.

By CHARLES S. BICKSLER

LOOMS WEAVING PICK-AND-PICK must be timed and set more closely than when they're set up to weave as regular looms. Older types of looms, in particular, give a lot of trouble by hanging the shuttle boxes and breaking lay ends.

Timing Is Critical

The picking motion and shedding motion must be timed together for best results. Then the picking motion must be set and timed correctly throughout so that shuttles box consistently.

The pickers on both ends of the loom should pick at the same time. On looms with a $2\frac{1}{2}$-in. crank, for example, both pickers should pick with the cranks up and the reed $2\frac{1}{2}$ ins. from the front-center position. Both picker sticks should have the same stroke, and the pickers should recover from the stroke at the same time.

When the lay is at the back-center position, both pickers should be about 2 ins. from the end of the lay.

If the pickers are timed correctly, only a small amount of check on the checkstraps is needed. The main purpose of the checkstrap is to ease the picker stick's impact on the lay end as the picker stick recovers from the pick.

The constant blow of the back of the picker stick against the lay end crystallizes the metal and breaks many lay ends. Another common cause of broken lay ends is hanging shuttle boxes, but more lay ends are broken from improperly set checkstraps than from all other causes.

Picker-stick heel springs must be very strong to insure a speedy recovery of the stick. This strong recovery is also hard on the lay ends, but about 2 ins. of check eases the strain. Springless checks give best results because they are more consistent.

The pickings shoes must be uniform in shape and position. If one shoe has a broad point and the other has a sharp point, they will not pick at the same time. The same condition exists if one shoe is closer to the camshaft than the other.

The arms of the picking-roll arm should be the same length. To check the length of the arms, measure the distance of one arm from the back girder of the loom; and then turn the camshaft over and measure the other arm.

Little Settings Mean a Lot

The picking rolls should be of uniform size and should contact the picking shoes near the point. Adjust the picking-shaft springs, or add picking-shaft springs, to keep the picking shoes in a constant position when the loom isn't picking.

Adjust the picking sweep-arm stop to position the picking shoe to the picking roll. On looms without stops, adjust the sweep sticks so that the picking rolls contact the picking shoes near the point.

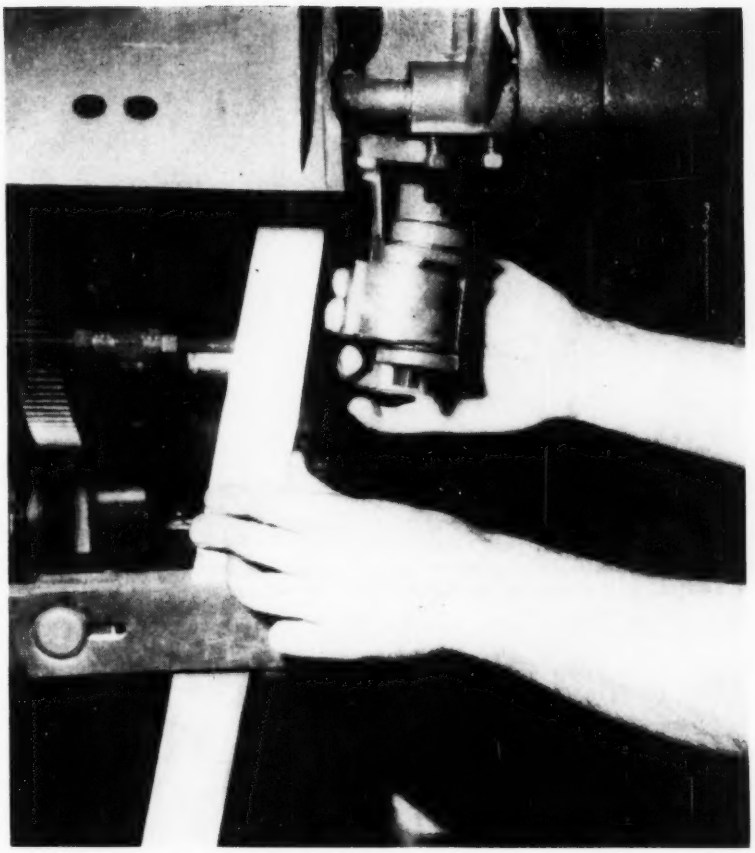
Adjust the binders to open late. Have most of the binding surface against the shuttle near the back end of the shuttle box to conform to the early pick. With the binders opening late, the shuttle does not creep out of the shuttle box when the shuttle is idle because the binder pinches the solid part of the shuttle firmly enough to hold it in position.

Use as little picker bunter as possible; about 2 ins. is usually enough. Too much bunter pick binds the loom and causes loose keys, broken shafts, and broken gears.

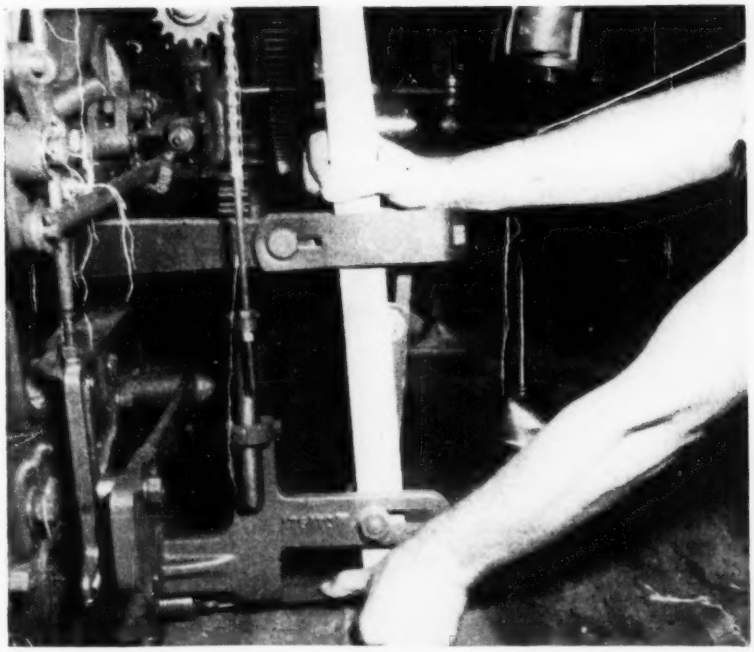
The shuttle guard at the mouth of shuttle boxes should be the safety type with a pressure spring to compress when a shuttle hangs under it. These guards prevent shuttle traps and break-outs.

When it's possible, always line the box binders with leather. The leather prevents the shuttles from creeping and also reduces filling breakage.

Shuttles must be of uniform length, height, width, and shape. For best results, the back walls should be longer than the front walls. The shuttle points should be slightly curved to prevent them from sticking in the pickers. Short shuttles make fewer break-outs than long ones because they box more accurately.



SHUTTLE CHECK must be constant. With the lay at back center, the back of the picker stick should be 2 ins. from the end of the lay end.



HEEL-SPRING TENSION must be very strong for quick recovery of the picker stick following the pick. The strong tension stops hanging shuttles.

RAW-COTTON SAMPLES from each bale are checked before the bale is actually shipped. Russell accepts only full-grade Middling cotton. The cotton is also checked by the classers for cavitoma and tested for fineness at the lab on a Micronaire.

A Testing Program That Assures Quality COTTON YARNS

Cotton purchased by Russell Mfg. Co. must conform to strict standards. The raw cotton is tested before and after purchasing. Laboratory testing during processing makes it possible to—

- **Set cards correctly**
- **Trace yarn variation to the responsible operation**
- **Produce even yarns with similar dyeing properties**

By **MICHAEL LONDON,** Assistant Editor, TEXTILE WORLD

THE YARN PRODUCED at Russell Mfg. Co., Inc., Alexander City, Ala., is constantly controlled from the raw-cotton state through spinning. The plant runs 24 yarn number ranging from 5s to 44s.

Since the condition of the raw cotton is known, the tests all along the processing line are used to trace the causes of yarn variation to a particular operation. And testing throughout the processing line stresses the need for careful work and makes the employees quality conscious.

Russell accepts only raw cotton that meets its standards, and a sample from each bale is checked before the bale is delivered to the plant.

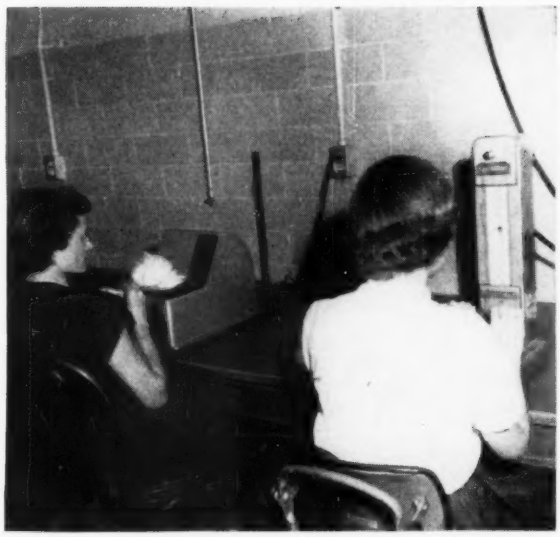
Classers examine the samples, and girls in the laboratory test the samples for fineness on the Micronaire. If the sample is rejected for any reason, the bale is not shipped. To test for cavitomic cotton, the classer uses a spray of phenolthalein and alcohol. The amount of redness shows the degree of cavitoma present. Cotton with an excess of cavitoma is used immediately.

The coarser cottons are dyed in raw-stock form to prevent the variations they would cause in a piece-dyed fabric. The plant adheres to a standard average mix as closely as possible and changes from this standard only when the cotton crop in general varies in fineness.

Cards Are Closely Checked

Russell makes two different nep counts, one to check the cotton and the other to check the cards. In making the cotton nep count, the mill takes a sample consisting of equal weights of cotton from each bale in a mix. The cotton is fed directly to the card, and the same card is used for each test. If the nep count, based on neps per 1.1 grains, exceeds the standard, the cards are slowed down for the particular mix. The average constantly has been 2 to 2¼ neps per 1.1 grains for the last three years.

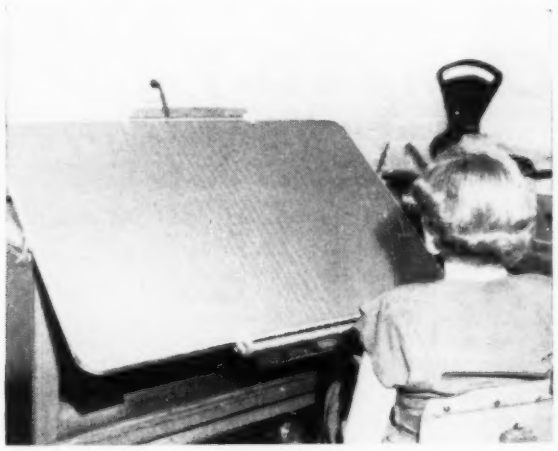
The card nep count, made weekly on the production of each card, gives



MICRONAIRE (right) is operated by Margaret Thompson. The samples are weighed on a Shadograph scale (left) by Edna Turner.

A USTER YARN-EVENNESS TESTER is equipped with a quadratic integrator (center). Hilda Adams reads the coefficient of variation directly from the integrator and records the results. Installation of the integrator has eliminated the need for many calculations.

A FIBROGRAPH is made on a weekly mix that has already been completely processed. The result is used as a check on the processing operations.



A YARN-DEFECTS BOARD is used to determine the number of yarn defects, which are classified as being caused either in manufacture or by poor cotton.

some indication of the over-all efficiency of the grinders. On each card, the nep counts before, during, and after stripping are averaged. If the cotton nep count is low and the card nep count has risen, the card-room overseer is warned immediately and the card grinders are called in to reset the card. Russell attributes its low nep count to its card speeds of 6¾ lbs. per hr.

Integrator Measures Coefficient of Variation

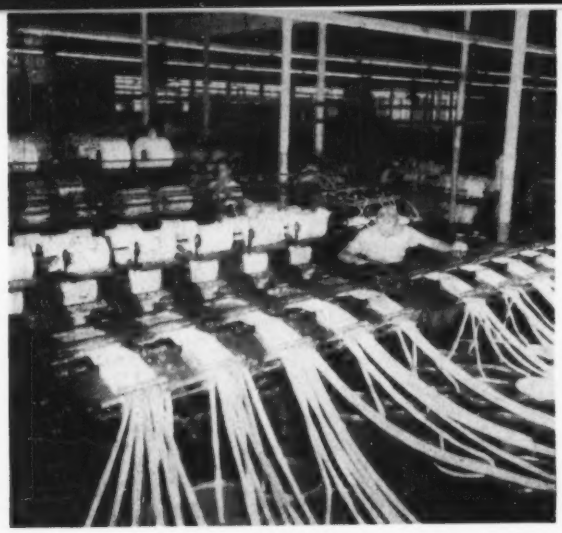
Card slivers taken from the actual production of each card are tested for variation every week. If the coefficient of variation goes above 6, the card is checked again; and if the coefficient of variation still exceeds 6, the card is reset.

An integrator used with the Uster evenness tester directly indicates the coefficient of variation, and the need for many calculations has been eliminated.

The girl operating the Uster tester records the results from the integrator, and later the averages are posted on charts in the offices of the three yarn mills.

A Fibrograph test is made weekly on a mix that has already been completely processed, and the result is used to check the operations. The Causticaire method, considered by Russell to be highly reliable, is used for determining fiber maturity. Yarns are checked for defects by a girl examining them as they are pulled across a yarn-defects board. She classifies and records the defects according to the cause, either faulty processing or poor cotton fiber.

An elaborately framed chart in the research office contains current graphs on staple length, cotton fineness, picker lap, card neps, card sliver, finisher drawing, roving-ends down, roving variation, yarn variation, yarn defects, spinning ends down, and degree of perfection for each mill.



PREPARATORY DRAWING is four-roll, eight ends up, delivering 60-gr. sliver from 50-gr. card sliver for a draft of 6.67.

COMBERS take out 14% noil and deliver 52½-gr. sliver at a production rate of about 46 lbs. per hr. Speed is 106 nips per minute.

How One Mill Increased COMBED-YARN Production

To increase production without extending floor space, a Southern combed-yarn mill—

- **Heavied up drawing sliver**
- **Cut lap winders to 14 ends up**
- **Runs combers at 46 lbs. per hr.**

By W. A. THOMASON, JR., Textile Engineer

PRACTICALLY EVERY MILL that has four-roll drawing with eight ends up before combing uses a draft of 9 to 10. This sales-yarn mill used to do the same thing. However, production was increased in the spinning room; and more pounds had to be put through the card room. The mill had ample capacity at every process except preparatory drawing. Here a bottleneck developed.

Limited floor space prevented the addition of more deliveries. Front-roll speed was already as high as the superintendent thought it ought to run. There was only one thing to do: he had to heavy-up on the drawing sliver. He had been making a 44-gr. sliver. Now, it was necessary for him to make a 60-gr. sliver.

He first made a 65-gr. card sliver, but he had to lighten it because the uniformity and quality of the combed sliver was terrible.

He ran tests with 60-, 55-, and 50-gr. sliver from the cards. He was surprised to learn that he got the best combing quality and finished-drawing sliver with 50-gr. card sliver. This setup gave him a draft of only 6.67 in the preparatory drawing. In every test, he cut out ends on the 10½-in. lap winders to give a comber-lap weight of about 800 grs. per yd. He ended up with 14 ends on the lap winder.

The sliver is very even. Average variation as shown on a Saco-Lowell sliver tester is 12%.

Here Are Production Details—

The mill spins 10s to 22s combed singles knitting yarns with 3.00 to 3.25 TM. The cotton used is 1 1/16-in. Delta.

The mill has modern opening and picking, and it cards 50-gr. sliver at 7 lbs. per hr.

The four-roll preparatory drawing, delivering 60-gr. sliver, has cushion top rolls, leather covered. The 1⅛-in. front rolls run at 435 rpm., which is 128 ft. per min. The mill has 32 deliveries.

Two 10½-in. lap winders are required to handle the production. They run with 14 ends up and make 806-gr. laps.

The Model 46 Saco-Lowell combers run at 106 nips per minute. They have three-over-four draw boxes and make 52½-gr. sliver.

The 11 combers take out 14% noil and have a net production of about 46 lbs. per hr. per comber.

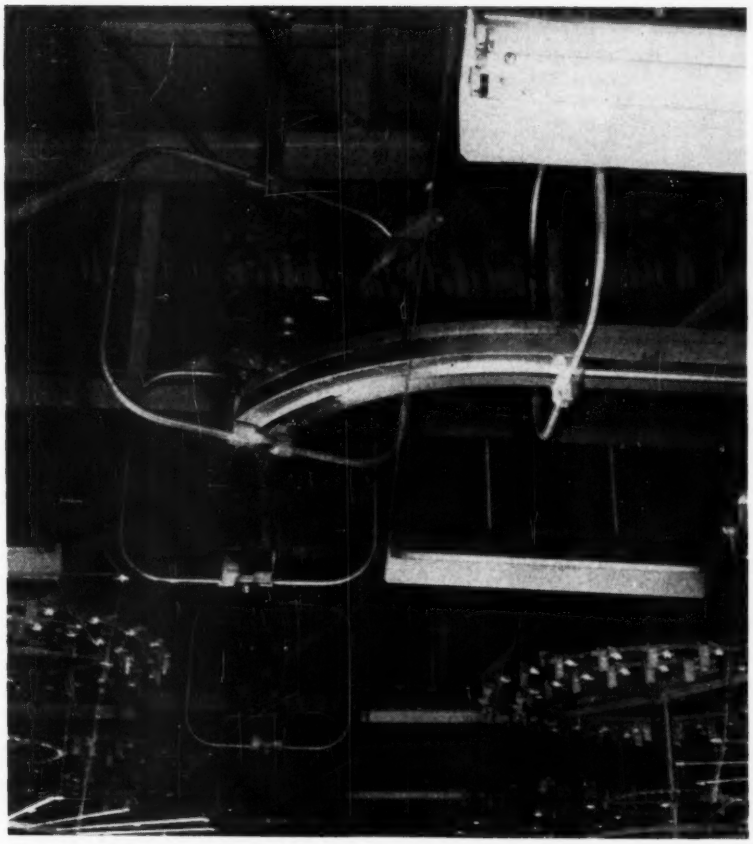
Laps for the finisher drawing are made on two 9-in. lap winders, 16 ends up. The 52½-gr. sliver makes an 807-gr. lap. All lap winders are equipped with pneumatic rack controls and spool moistening devices.

The finisher drawing is Saco-Lowell five-roll, lap-back drawing. All top rolls except the front one are covered with Accotex N. C.-727. The front top rolls are covered with Accotex J-490. The 1⅛-in. front rolls run at 360 rpm., which is 106 ft. per min. Net production is 14.5 lbs. per hr. per delivery, and sliver variation is 12%.

All roving is made on 10x5 frames, and spinning frames are 3½- and 4-in. gauge.

KNITTING-ROOM CLEANER

Saves Money, Helps Quality



CLEANING UNIT keeps lint from light fixtures, roof girders, humidity ducts, and stop motions. Two units travel on more than 800 ft. of track over 200 knitting machines. Each unit completes a double circuit in about 8 mins.

A traveling cleaner at E-Z Mills keeps lint accumulations at a minimum to—

- Save cleaning time
- Reduce press-offs and holes

By JAMES H. BLORE, Associate Editor, TEXTILE WORLD

LINT—the biggest nuisance to underwear knitters—is kept on the move at E-Z Mills, Inc., Cartersville, Ga., with a new Parks-Cramer traveling cleaner.

Before the cleaner was installed, lint accumulations on humidifier ducts, light fixtures, and roof girders would occasionally fall on the knitting machines in large lumps. When these lumps fell on the yarn or needles, damage occurred to the fabric or the knitting machine.

E-Z Mills prevented too much lint accumulating by having the duct work and girders cleaned periodically. This work was done during the week end, and the knitting machines were cleaned down on Monday morning. The yarns had to be cut and the machine turned by hand for a few revolutions.

The traveling cleaner prevents lint from accumulating on points above the knitting machines, and the lint is swept from the floor. The cleaning team will be dispensed with, and cleaning periods of stop motions by knitters have been lengthened from 2 to 4 hrs.

Cleans Area Over 200 Machines

Two cleaner units serve the knitting area where about 200 machines are in operation. They run on two W-shaped tracks that wind up and down the knitting room. The tracks are not arranged over the knitting aisle but are arranged so that the full area over the knitting machines will be covered with an air blast.

The tracks are about 400 ft. long, and each unit covers the track twice in 8 mins. The units do not travel in one direction. A switch at each end of the winding track reverses the direction of the cleaner. This action makes sure that the air blast does not cover the same spots at each traverse.

Cleaning Unit Rotates

The cleaning unit rotates continuously in a complete circle as it travels along the track. A large nozzle points diagonally toward the ceiling and keeps lint from settling on the roof girders; a small nozzle keeps the track clean; and two side nozzles are adjustable to blow down fluorescent fixtures, humidifier ducts, and stop motions.

The electrical connections that drive the 1,745-rpm. motor run under the track. Two pulleys prevent the units from jumping off the track, which is suspended about 2 ft. above the knitting-machine stop motions. The rails are 10-ft. sections, suspended at about 20-ft. intervals.

Yokes fixed to the roof beams support the track but allow the cleaner to pass. Extra yokes brace the track at bends.

The management at E-Z Mills expects to save a lot of money in cleaning costs with the new installation.

Is there a better STAINLESS for you ?

2221 kinds, forms, finishes and sizes in our stock for quick shipment

So much improvement is being made every day in stainless. New extra-low carbon sheets and plates for special welding requirements, light plates for polishing and stainless tubing to name but a few. You may not be using the exact type that is best from a fabrication, long life or cost standpoint.

So we urge you to let our Ryerson stainless specialists help you select the right type for each particular purpose.

And whether you need stainless, or any other kind of steel, depend on Ryerson for immediate delivery from stock.

STAINLESS IN STOCK

SHAPES: Sheets & Strip • Plates • Rounds • Squares Flats • Hexagons • Angles • Pipe • Tubing Fittings & Fastenings

TYPES: 301, 302, 303-C, 303-S, 304, 304-L, 309, 310, 316, 321, 405, 410, 416, 430, 430-F, 440-C

CONDITIONS: Hot Rolled, Cold Drawn, Centerless Ground

FINISHES: #1, #2B, #2D, #3, #4

RYERSON STEEL

JOSEPH T. RYERSON & SON, INC. PLANTS AT: NEW YORK • BOSTON • PHILADELPHIA • CHARLOTTE, N. C. • CINCINNATI • CLEVELAND DETROIT • PITTSBURGH • BUFFALO • CHICAGO • MILWAUKEE • ST. LOUIS • LOS ANGELES • SAN FRANCISCO • SPOKANE • SEATTLE

Basic Methods and Procedures For the CARD-ROOM OVERSEER

▶ Without a standards department, the card-room overseer must rely on his knowledge of processing principles and his ability to develop his own set of standards. Here is a rundown of the basic methods and procedures that result in high-quality roving.

By N. H. POMFRET

THE CARD-ROOM OVERSEER without the aid of a standards department should accept the challenge of the situation and set up his own standards based on his own experience or the experience of his department. He must rely on basic card-room procedures and practices.

Quality is the first consideration. If the resultant yarn is not up to the quality required of the fabric, there is no point in spinning it. Quality, of course, starts with the stock, and the overseer must develop judgment by experience and keen observation as to what properties are most useful for the plant's requirements.

How To Develop Judgment

Acute judgment can be obtained with practice by examining every bale opened and put behind the blenders and recording the observations. After sufficient experience, printed forms or cards can be drawn up to be filled in by an assistant or clerk from the overseer's remarks during the examination. With one form for each bale, these cards, called bale cards, can be kept together in groups, each group representing a mix or blend.

Further remarks regarding the behaviour of the mix through the processes can be made on a mix card and kept with its appropriate bale cards for future reference. By conscientiously making the observations and exercising the judgment necessary to write pertinent remarks, the overseer learns quickly the type of stock that gives the best results. He also builds up a wealth of evidence that can be useful in making future decisions.

Without the aid of a standards department, the overseer must assume that his department is producing below its potential. And he must spend a lot of his time seeking the cause of the loss. The department should be controlled by looking, correcting, and instructing: looking for faults, correcting them, and instructing operators how to notice and correct faults themselves. This never-ending task requires constant study of modern techniques and methods and their possible applications to the particular department. No two departments are exactly alike, but most of the following suggestions should be relevant to most carding departments.

Know Blending Principles

Machine makers and technologists have made many studies in an effort to increase the intimacy of fiber blends, and the results of their work is being reflected in the design of modern opening lines. However, the overseer has to make the best possible use of equipment at his disposal; and to do so, he must understand the principles of blending.

Before making a mixture of any stocks, each component should be reduced to the smallest practical size. Large tufts of fibers cannot be blended as effectively as smaller tufts, and small tufts cannot be blended as well as individual fibers.

Suppose it is necessary to make a 25-25-25-25 blend of four fiber types, A, B, C, and D, all the same length and fineness, with four blenders delivering to an apron leading to the opening line:

1. The ideal method of feeding would be to deliver four fibers at a time—one fiber type from each blender.
2. The worst possible method would be to feed Fiber A from all four blenders simultaneously, then follow with Fibers B, and so on.

To approach the ideal as closely as possible, the overseer should attempt to (1) select material as nearly uniform as possible, (2) use uniformly compressed bales, (3) make use of comparatively large mixes, (4) use as many blenders as practical, and (5) feed small amounts from each bale.

Supervise Feeding

An important duty of the overseer is to insure that small amounts are fed from each bale and in the proper order. The operators will attach only as much significance to this part of their work as the overseer does; if he is careless, they will also be careless; but if he is careful in explaining the necessity of systematically feeding small lots from the different bales, and if he checks the work at frequent random intervals, the operators will learn quickly that he means business.

Feeding reworkable waste in a constant, uniform stream is also necessary if uniform workloads and blends are to be attained. Steady waste feeding is especially important with man-made fibers, which can have widely different loading capacities at the card.

Opening and Picking

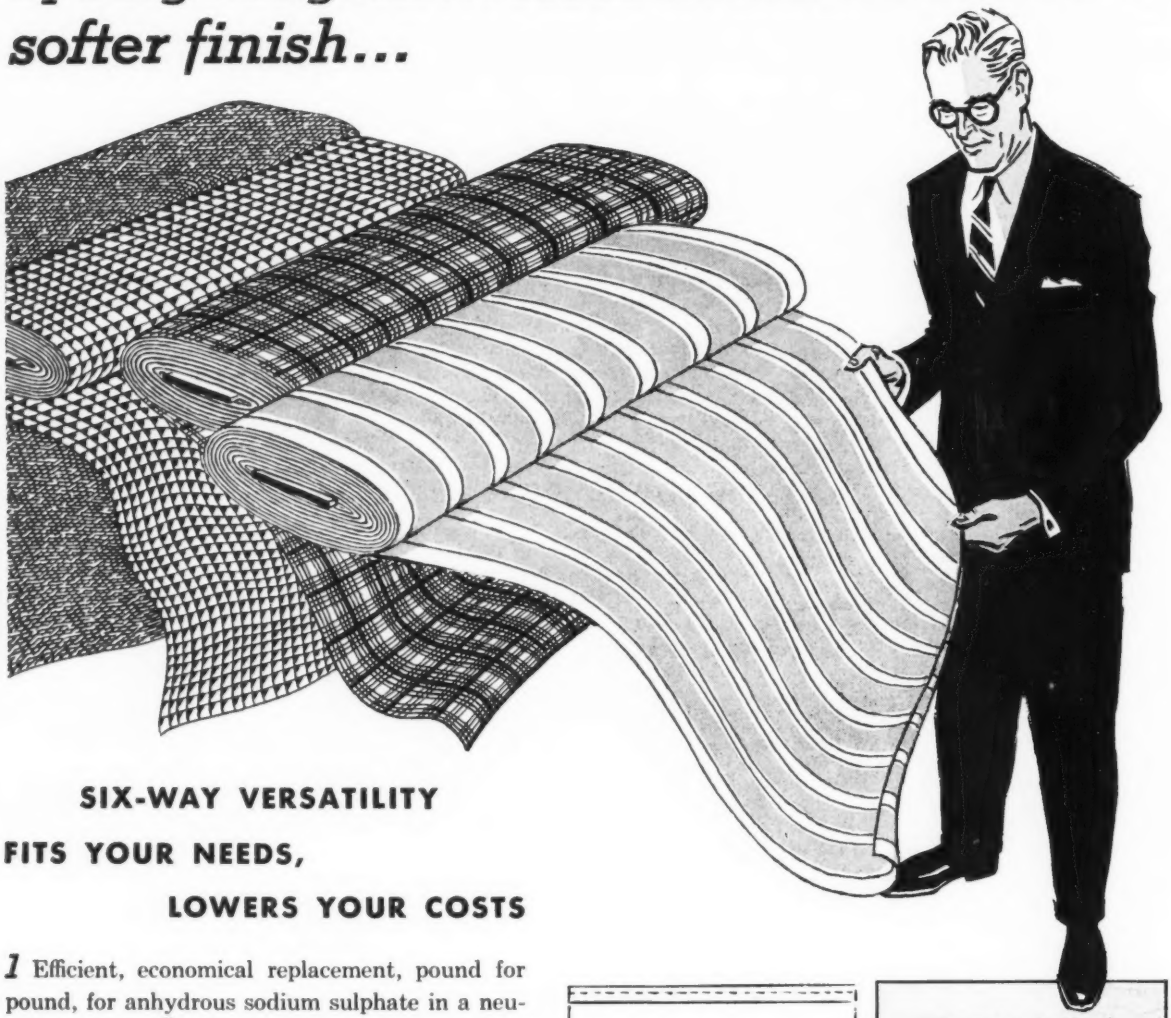
Without a standards department to make tests of lap regularity, the overseer must learn to judge the suitability of laps from their appearance when held up to the light, the behaviour of the opening and picking line, and the lap weights. To help develop good judgment, the purpose of the processes must be kept in mind.

The purpose of opening is to separate the stock from the trash. Individual fiber isolation would be ideal, but opening cotton mechanically often damages good fiber. So a compromise is usually aimed at—open as much as possible without damaging the stock too much. In opening, uniformity is the objective because the evener motion of the picker depends on the uniform density of stock.

Balance the Opening Line

With other things equal, an opening line will give the best results if it's well balanced from a production point of view. The settings and speeds of the blenders should allow a production potential slightly in excess of the openers' production, and the openers' potential production should be a little more than picker production. With

STERLING TNA-5 *superior textile dyeing reagent... clear brilliant colors... softer finish...*



SIX-WAY VERSATILITY

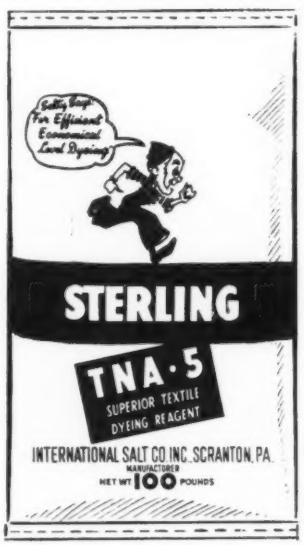
FITS YOUR NEEDS,

LOWERS YOUR COSTS

1 Efficient, economical replacement, pound for pound, for anhydrous sodium sulphate in a neutral dye bath. *2* Neutral, readily soluble in either cold or hot water. *3* Can be used in either the dry fine granular form or automatically converted to fully-saturated brine with the TNA-5 Dissolver. *4* Eliminates dye precipitation, produces a good color yield, level shades and a soft finish. *5* Can be used in a neutral dye bath when dyeing cotton, rayon, wool, or any blend of these fibers—in the staple, yarn or piece goods. *6* Especially effective with Direct or Naphthol dyes, it produces excellent crock fastness and clear, brilliant colors.

For Best Quality Dyeing, Order Your TNA-5 Today!

In 100-lb. bags and bulk



INDUSTRIAL DIVISION
INTERNATIONAL SALT COMPANY, INC.
Scranton, Pennsylvania

Sales Offices:
ATLANTA, GA.
CHICAGO, ILL.
NEW ORLEANS, LA.
BALTIMORE, MD.
BOSTON, MASS.
ST. LOUIS, MO.
NEWARK, N. J.
BUFFALO, N. Y.
NEW YORK, N. Y.
CINCINNATI, O.
CLEVELAND, O.
PHILADELPHIA, PA.
PITTSBURGH, PA.
RICHMOND, VA.

Engineering Offices:
ATLANTA, BUFFALO, CHICAGO

such a plan, maximum opening, blending, cleaning, and lap regularity are achieved for the required production.

Timings must be made before adjustments are made, but anyone who can operate a stop watch can make timings. Excess production of 5 to 10% for each preceding operation is a reasonable production gradation.

The overseer would do well to develop a habit of examining the droppings periodically. The nature and quality of the wastes under the beaters often tell quite a story to anyone able to read the evidence. Passage of the stock from the beaters to the screens should also be examined regularly; regular laps cannot be made if the stock movement is haphazard. It does no harm for the overseer to examine the dust flues occasionally; anything that impedes the smooth flow of air helps to produce uneven laps.

Cleaning, oiling, and scouring schedules should be drawn up, posted, carried out, and checked. The overseer should develop the habit of observing the following items every time he enters the opening and picking room: (1) cleanliness of the machine, (2) cleanliness of the laps; (3) room humidity, (4) weights of the finished laps, (5) lap selvages, (6) condition and distribution of stock on feed apron, (7) movement of feed apron, (8) position of cone belt on cones, (9) tensions of belts and ropes, and (10) sensitivity of the evener motion.

Carding

The card web is the barometer that indicates the efficiency of the carding operation and forecasts the spinnability of the stock. So it is essential to examine the webs regularly. The overseer may not be able to determine the exact number of neps per square inch, but he will certainly be able to judge whether the carding is good enough for the yarn being spun.

The carding overseer should observe the degree of cleanliness and cloudiness of the web and the condition of the web selvages to know if adjustments are needed and to note results of adjustments.

By examining the flat strips and the lickerin waste, the overseer is able to form a mental picture of the general condition of the card and its settings. Since the card wire and the settings are the most important elements of the card, the overseer can spend his time profitably by occasionally checking these items. The condition of the grinding rolls, the working setting, and the condition of the emery cloth also call for attention.

A good practice for the overseer is to keep records of all major repairs to machines so that an indication of each machine's condition is always at hand. But records do not relieve the overseer of constant checking; instead, records only aid him in this work. He should also get the card grinders to keep to a workable schedule that can be checked easily.

A skillful head card grinder and setter is indispensable to a mill without a standards department. The grinder is able to spend much more time with the cards than the overseer. He should be taught and encouraged to critically examine the card webs and make adjustments without supervision. He could also make waste-percentage tests from which the overseer could make tentative standards. Remember, there can be standards without a standards department.

Fault finding should be the object of the overseer whenever he makes a tour of the cards, which should be often; it is hardly possible to give the cards too much thought and attention. Checklists should be drawn up and studied so often that the items become working reflexes of the overseer's mind. When this skill is developed, it is easier for him to detect and correct a fault than to ignore it.

Drawing

The first requirement for drawing is a system of putting up card sliver at the breaker frame to keep an excessive amount of light sliver, which is produced just after stripping, from running together under one head. The stop motions need checking frequently; so do the cleanliness of the clearers, the flutes, weighting of the rolls, the weight of the full cans, and the general cleanliness of the machines.

Top-roll slippage can be reduced to a minimum by efficient lubrication, effective weighting, and a regular schedule of cleaning. Excessive slippage can often be recognized by circumferencial marks on the top rolls. When these marks show up, the obvious remedy, which should be used at once, is to re-cover the rolls with a slightly larger-diameter covering (if synthetic covering is used), clean and oil the rolls, and give the bottom fluted rolls a vigorous scouring with pumice stone.

Set Rolls for Fiber Control

Rolls should be set close enough to give effective fiber control but not close enough to increase the drafting force beyond the capacity of the rolls. Remember that closer roll settings increase fiber control up to an optimum point; but after this point, closer settings diminish fiber control by the introduction of roll slippage.

All drawing frames must have the same draft gears to produce the same sliver weight from similar stock. A systematic sizing of finisher drawings is essential, but the draft gears should be changed reluctantly if irregular sizings at the fly frame and ring frame are to be avoided. It is much better to find the cause of the variation than to try to correct it at the finisher drawing frame.

As with carding, the condition and appearance of the drawing web is the criterion of efficient processing, and the overseer must examine the webs habitually when he passes the machines.

Roving

Fly frames have three principal functions to perform, and the overseer should bear them in mind:

1. Draft the sliver to the desired degree of fineness.

2. Insert sufficient twist to insure uniform drafting during spinning and enable the roving to unwind without stretching.

3. Make the roving into a package that will withstand the handling during doffing and transportation to the next operation.

These objectives should be attained

CONTINUED ON PAGE 192

Humanics — **A TW Brief**

Benefits and Morale

What effect do employee benefits have on the supervisor's job?

The purpose of insurance plans, pension plans, vacation pay, etc. is to give employees more security and make them more satisfied with their jobs and the company. But fringe benefits cannot be relied on as an instrument to improve morale. In a company or department with good morale, fringe benefits tend to bolster the morale; but in a company or department with poor morale, fringe benefits do not usually improve it.

Benefits, to the supervisor, are subjects he must understand to answer questions; he should not think of benefits in relation to morale.

When your Processing calls for:

SOAP

call on this All-Star Cast!

OLATE

A neutral, thin-flaked soap containing 92% anhydrous soap. Made from carefully selected and highly refined oils of approximately 12°C titer. Highly resistant to oxidation, rancidity and odor development. Olate dissolves more readily, rinses more freely and forms more fluid solutions than medium or high titer soaps. Excellent for scouring and fulling woolens and worsteds. Equally efficient for processing other fibers.

NONPAREIL

A neutral, light-colored flake containing 92% anhydrous soap. Made from high-grade, medium titer stocks. An efficient all-purpose soap which can be used alone or with alkalies for processing all types of textile fabrics. Nonpareil forms fluid solutions with greater viscosity than Olate solutions of equal concentrations. Readily soluble and free rinsing. Good scouring properties at all temperatures. Widely used for fulling and scouring.

AMBER
FLAKES AND GRANULES

A light-colored, neutral, top-grade 42°C titer soap made from carefully selected fats exceptionally resistant to oxidation, rancidity and discoloration. The standard in the textile industry for tallow-type soaps. Contains 88% anhydrous soap. Amber builds an unusually sturdy suds which performs efficiently where heavy-bodied fulling solutions are desirable.

IVORY
CHIPS AND BEADS

A medium titer, neutral, white soap containing 90% anhydrous soap. Made from highest quality refined oils and fats. Dissolves readily, producing quick, stable suds at all temperatures. Very resistant to oxidation and discoloration when left in textile fabrics or when used as a textile finish. Excellent for processing all types of fibers.

Your jobber has stocks of these fine, time-tested Procter & Gamble textile soaps. Use them with confidence.

Procter & Gamble

Textile Finishes Sales Department
Cincinnati, Ohio

MAKERS OF PROFINE, KYRO, ORVUS AND PROXOL BRANDS

YARN DYED FABRICS —

the Royalty of Textiles

19th Century Scottish Paisley Shawl Fabric
Museum of Art, R. I. School of Design.

SOME lady of fashion wore this shawl in the heyday of Queen Victoria, who established the Paisley as the badge of the well-to-do. No one else could then afford yarn dyed fabrics, always "the royalty of textiles".

Today, mass production brings yarn dyed fabrics within reach of all — yet they remain the ultimate in quality and textile craftsmanship. To this progress, Franklin Process has contributed immeasurably.

As the world's largest package yarn dyers, and as yarn merchants handling a wide range of brands and qualities, we can supply you with superior colored yarns at competitive prices. Ask our nearest plant for quotations and delivery.

Franklin Process

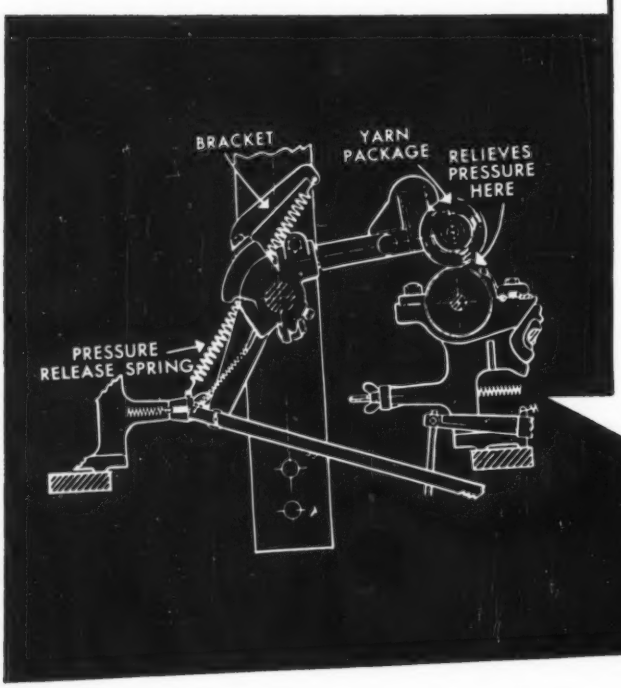
COTTON YARN MERCHANTS & LARGEST PACKAGE DYERS IN THE WORLD

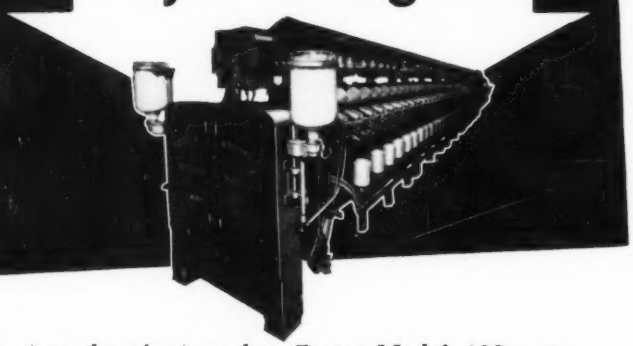
New York Representatives — 40 Worth Street

PROVIDENCE • PHILADELPHIA • GREENVILLE • CHATTANOOGA • FINGERVILLE, S. C.

FOSTER MODEL 102

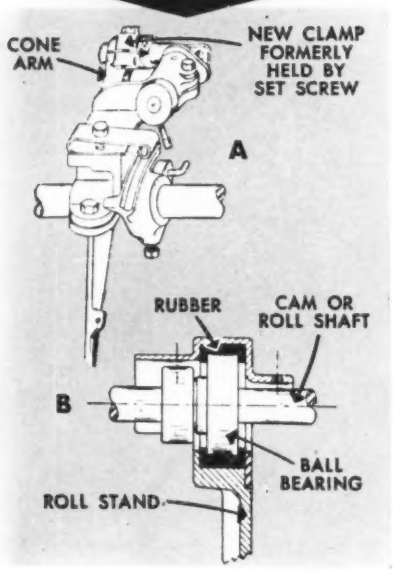
Better than Ever for Winding Dye Packages





Our new pressure release mechanism (see drawing) makes Foster Model 102 even more suitable than before for winding dye packages. As shown, this new mechanism enables you to regulate pressure of the yarn package on the driving roll — and thus to produce a very soft package, if desired. Simple, rugged and easy to adjust, the device is built around a pressure release spring whose tension may be regulated.

Also New!



Model 102 is the *flexible* winder — adapts readily for winding staple yarns of all types in a wide range of counts, doubles production and reduces operating costs 1/3 by contrast with obsolete machines. And it gets better all the time, as we develop its possibilities to meet new conditions in the textile industry.

A. Collar Assembly
to hold cone or tube spindle eliminates pitting and scoring of arm, makes accurate setting always possible.

B. Rubber Boot Assemblies
to cover ball bearings on cam and roll shafts facilitate alignment, reduce vibration — thus prolong life of machine, with less maintenance.

For Complete Data on Model 102, Send for Bulletin A-95 No Obligation!

FOSTER MACHINE COMPANY
WESTFIELD, MASS., U.S.A.

Southern Office: Johnston Bldg., Charlotte, N. C. • *Canadian Representative:* Ross Whitehead & Co., Ltd., 1475 Mountain St., Montreal, Que. and 35-37 King St., W., Toronto, Ont. • *European Representative:* Muschamp Textile Machinery Ltd., Keb Lane Bardsley, Ashton-under-Lyne, England.

What To Do About Ends-Down Tests

1. Make regular end-breakage tests on several typical frames. Detect and record every yarn break and its cause.
2. Divide these recorded ends down into four classifications:

(1) Mechanical Defects

Check dull skewers, condition of top rolls and aprons, vibrating spindles, yarn tension, excessive ballooning, roll settings, ring and spindle settings, traveler pins, creel rods, traverse motion, and separators.

(2) Operator Faults

Check methods of piecing, creeling, and dropping. Instruct spinners in the correct way to splice front piecings and the correct way to make a back piecing without a bunch or tail.

(3) Cleaning Methods

Check standard cleaning and picking schedules. If satisfactory, make sure they are followed in every detail. Change the present schedules and methods if better cleaning is needed.

(4) Imperfect Back Stock

Check for doubles, singles, hard ends, clearer waste, bad piecings, oily piecings, and the build of roving bobbin. Make a regular inspection of roving in the creels. Collect all the imperfect roving and return it to the card room.

Ends-Down Analysis Pinpoints SPINNING Trouble

▶ This New England cotton mill found it was using the right organization for making 28s warp yarn from the cotton it was using, but production and quality improved after it pinpointed and corrected these faults—

- Dull skewers
- Bad roving
- Bad piecing up
- Lint on travelers
- Incorrect travelers
- Fluctuating humidity

By E. H. HELLIWELL
Contributing Editor, TEXTILE WORLD

A New England cotton mill spinning medium numbers had a survey made to find ways to improve the efficiency of the frames and quality of the yarn. A check on the spinning organization revealed only minor faults, but a series of ends-down studies resulted in the correction of several bad conditions.

Spinning Organization

Cotton	1- to 1 1/8-in. M
Yarn number	28s warp
Spindle speed	9,400 rpm.
Front-roll speed (1-in. roll)	119 rpm.
Twist multiplier	4.75
Standard twist	25.13 tpi.
Hank roving	Double 4s
Draft	14

This organization was considered suitable for the yarn number and the cotton. An inspection of the frames showed them to be in good shape; the frames had been installed five years before and showed good fixing and careful maintenance. A few minor faults were corrected before the survey proceeded.

Ends-Down Tests

The standard for this yarn number and quality of cotton was considered to be 30 ends down (or under) per 1,000 spindle hours. Several series of tests made on different spinning frames showed an average of 63 ends down per 1,000 spindle hours, which is excessive.

An analysis of the causes of end breakage showed that many of these breaks could be traced to faulty back roving. Bunches in the roving, doubles, singles, and hard ends accounted for a large part of the end breakage. Dull skewers in the spinning creels were responsible for many roving ends breaking back. The breaks caused by faults such as roving run-outs, fly lint, top-clearer waste, and lint on travelers were traced to poor frame tending or insufficient cleaning.

Causes and Remedies of Excessive Ends Down

Dull Skewers

Dull skewers were found to be a frequent cause of strained and broken back roving on the spinning frames. This condition is hard to detect or prevent unless some system of replacing and repointing skewers is followed.

A dull skewer in regular operation was seldom replaced until the roving had broken back several times. Many other strands of roving on dull skew-

CONTINUED ON PAGE 194

NOW!
A Great New
SACO-LOWELL
REPLACEMENT
PARTS PROGRAM
Not Just Words, but facts — Saco-Lowell has expanded its entire replacement parts facilities to offer you greater service. Soon, a specialized engineer will call at your mill to aid in servicing you in this vital phase of your operations. This specialist, backed by our entire organization, will help you get original replacement parts easily — quickly.
Only SACO-LOWELL offers all these services
● Specialized sales engineers covering only replacement parts.
● In stock policy on thousands of original replacement parts.
● Immediate deliveries from centralized depots.
● Illustrated custom catalogs for easy ordering.
● All replacement parts made to original machinery specifications.
● Streamlined office and engineering staffs to speed orders and answer technical problems immediately.
IT PAYS TO USE ORIGINAL SACO-LOWELL REPLACEMENT PARTS
THEY'RE GUARANTEED
SACO-LOWELL
60 BATTERYMARCH STREET, BOSTON 10, MASS.
Shops at BIDDEFORD and SACO, MAINE, and SANFORD, N. C.
SALES OFFICES: CHARLOTTE • GREENSBORO • GREENVILLE • ATLANTA

POINTERS for SUPERVISORS

The Supervisor's Place in the Open-Door Policy

▶ Does your mill encourage workers to come to you or to higher management with problems that haven't been solved on the job? Then your job is affected by your company's belief that such a policy is the right one. Here is one answer for supervisors who are asked to make such a policy work.

By **M. A. CROSS,** Director of Industrial Relations, Dan River Mills, Inc.

MORE AND MORE TEXTILE-MILL SUPERVISORS are hearing about the "open-door policy." Actually, only the phrase itself is new. The policy, in one form or another, is found in many mills, particularly nonunion plants.

The open-door policy encourages employees to go to their supervisors and, if necessary, to higher management when they have problems that for one reason or another have not been resolved on the job. Implicit in the open-door policy is the assurance that employees who take advantage of the invitation to take their problems to management will not be discriminated against because of having gone over somebody's head.

Companies that have such a policy think it is sound because it recognizes that wherever large numbers of people work together, there will sometimes be misunderstandings, conflicts, and complaints of unfair treatment. It is the objective of the open-door policy to bring these conditions out into the light so that a just solution can be found and not to let the wounds, imagined or real, fester in the dark and poison potentially good employee relations.

Making the open-door policy work effectively is not a simple accomplishment. It requires a number of ingredients. Here are some of the more important ones.

1. You've got to believe in it.

It's not enough that the president of your company or the manager of your mill believes in it and has adopted it. As a supervisor, you must believe in it. You must understand the reason for its existence and agree with the objective the policy is intended to accomplish. That may sound easy; actually, it can be very difficult, especially in a situation that affects you personally.

Assume, for example, that one of your employees is dissatisfied with his particular work assignment. He talks it over with you but is unable to convince you that a change is desirable. So, taking advantage of the open-door policy, he takes the problem up with your superior. After proper investigation, including consultation with you, your superior decides the employee has a just complaint and that his work assignment should be changed.

Are you big enough to accept a reversal of your decision? Will your concern over possibly losing face outweigh your belief that over the long term, the open-door policy will work to the advantage of your department?

Real conviction that the open-door policy is a sound one doesn't come easy. It takes a broad viewpoint. It requires you to think big.

2. Employees must understand its operation.

Possibly your company has an employee booklet or manual that sets forth, in print, the right of employees to discuss their problems with their supervisors and, if necessary, with higher levels of management. Many employees will accept such a statement with a degree of skepticism and will wonder exactly what would happen if they were to exercise the right. If the open-door policy is to mean anything and is to accomplish its objective, employees must understand that the policy is in effect for them to use and is not simply a statement of pious intention.

How can you get this across to employees? There are a number of things you can do. As new employees come into your department, you can take the time to explain to them that they are free, at any time, to come to you with matters they don't understand. You can further say you will try to work out any problems satisfactorily but that if your decision still appears unfair, the employee can discuss it with your superior. You can get the same point across to other workers in your department in the ordinary course of your supervisory duties.

Most important, you can make sure that when employees do come to you to straighten out a misunderstanding or to get information or to explain what they believe to be mistreatment, you give them a courteous hearing, try to find out what the real source of trouble is, and take the necessary corrective steps.

3. Don't put the heat on employees who make use of the policy.

The open-door policy is not going to work if employees believe their status may be damaged in any respect because they exercised the privilege of appealing to you or to your superiors. You may hear from the chronic gripers and those full of pure cussedness; but the others will remain silent, will nurse their own complaints, and will develop an unhealthy disrespect for management's intentions as expressed in the open-door policy.

Essentially, I suppose this point goes back to the first one. You've got to believe in the open-door policy to make it work, and you don't believe in it if you put pres-

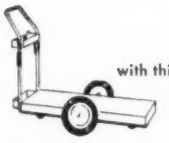
CONTINUED ON PAGE 197

Here's how planned, mobile, power lubrication can boost production ...slash costs...up profits!

This "lubrication department on wheels" is tailored to fit the lubrication needs of your plant...exactly!

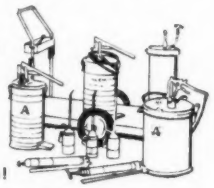
If in your plant there is a need for all kinds of lubricants all over the lot, then an Alemite Lubrikart is the answer. This single unit is actually an amazing versatile "lubrication department on wheels." With it you can provide hand, air or electric pumps for pressure-gun greases, hand guns and loader pumps, gear oil dispensers or oil can fillers.

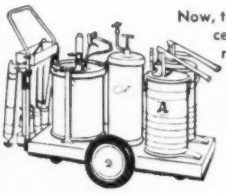
In addition, the Lubrikart carries special hand guns, extra parts and tools right to the machines where they are needed, when they are needed. You get all the advantages of power lubrication right on the job. The savings in time is important. But even more important, proper lubrication protection is assured, machines produce longer with less wear and the savings in lubrication downtime more than equals the cost of the equipment!



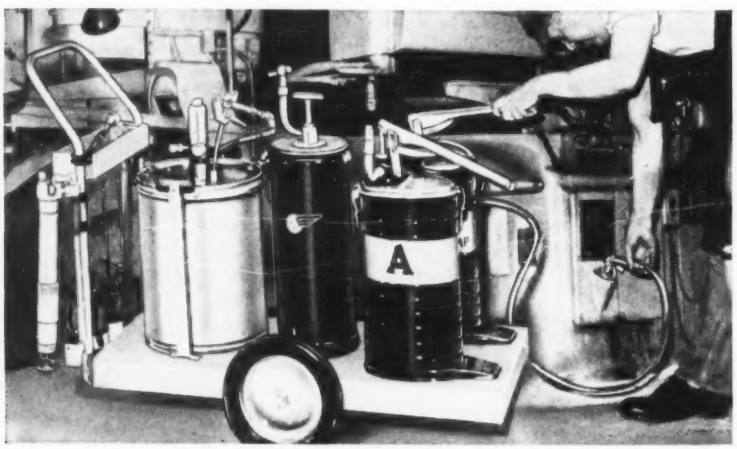
Mobile Power Lubrication begins with this sturdy hand truck, the Lubrikart. Highly maneuverable, it goes anywhere in the plant, navigates a 26" aisle, turns in a 49" circle.

From standard Alemite equipment you choose the *exact* items your plant needs. Air, electric or hand operated pumps handle *any* lubricant needed. And Lubrikart brings necessary equipment right to the machine!



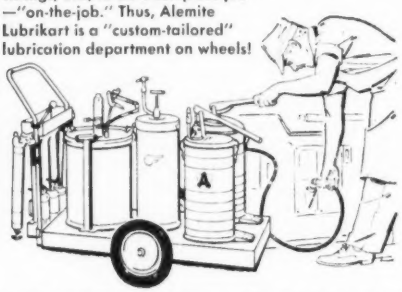


Now, the Lubrikart, filled at the central lubrication room, is ready to service hundreds of bearings requiring a variety of lubricants. Lubricant is completely protected at all times—reaches bearings "refinery clean!"



with Alemite Plan "E" lubricant is "Refinery Clean" at all times!

Operator has a complete selection of equipment plus spare parts, fittings, etc., to do a complete job —"on-the-job." Thus, Alemite Lubrikart is a "custom-tailored" lubrication department on wheels!



This planned assembly and use of Alemite Lubrikarts is known as Alemite Plan "E." It is one of the five Alemite plans that your trained Alemite representative can show you. Ask him about the colorful, new, informative slide film, "No Margin for Error" which will help you and your men cut production costs. No obligation, of course.

Free! **New Booklet "5 Plans for Better Plant Lubrication"**

ALEMITE, Dept. J-124
1850 Diversey Parkway
Chicago 14, Illinois

Please send me my copy of "5 Plans for Better Plant Lubrication"

Name .....

Company .....

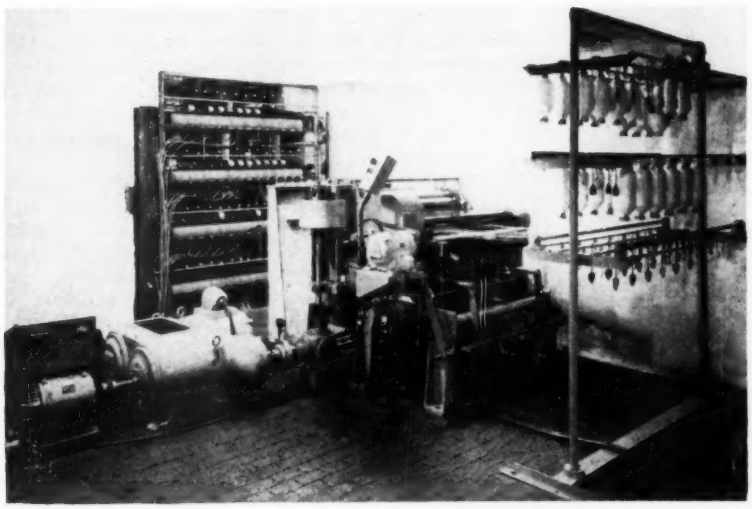
Address .....

City ..... State .....

ALEMITE
REG. U. S. PAT. OFF.

A PRODUCT OF SW STEWART WARNER

Ask Anyone in Industry



Tek-Ja Process for No-Twist Yarn

A working model of machinery for the Tek-Ja process of making zero-twist yarn has been completed by Proctor & Schwartz, Inc., 7th St. and Tabor Rd., Philadelphia 20, Pa. Proctor & Schwartz is building the machinery under license from the patent-holder: Fibrebond Laboratories, Inc., 519 Mt. Auburn St., Watertown 72, Mass. Marketing plans call for end products to be licensed by Fibrebond on a royalty basis.

In the Tek-Ja process, roving is run through a drawing setup, saturated with polyvinyl alcohol, given a rubbing action, dried, and wound on up to 3-lb. packages. After the yarn is knitted or woven into a fabric, the fabric is scoured (conventional scouring), which removes the adhesive; and the yarn is held together by the intertwinings of yarn in the fabric. The scoured fabric can be given any conventional finishing treatment. Cotton, synthetics, and wool fibers have been successfully processed.

Since the yarn in the fabric is not held together by twist, it spreads out to fill the interstices; and good cover is a characteristic of Tek-Ja fabric. Other characteristics are a soft hand, good loft, good absorption, and good strength, especially in plied yarns.

The Tek-Ja yarn looks promising for fine-yarn applications such as typewriter ribbon; full-fashioned hosiery has been knitted successfully from 100s cotton Tek-Ja yarn; and other samples include duck, oxford, tubular-knit underwear, chenille, sheeting, dress fabrics, and plied sewing thread. As in conventional processing, the yarn is no better than the roving. Preliminary experience indicates that a given yarn number can be made from a shorter staple, but a more-uniform staple length appears to be desirable.

How the Process Works

The prototype model is a half unit, with two roll sections. Production speed is expected to be several times as fast as ring spinning. The workload is expected to be at least two units to an operator, with the possibility of four units, arranged in a square, to an operator. The general range of cotton numbers is expected to be 10s to 60s (190s has been made experimentally).

Roving is creeled on a standard umbrella creel supported by a metal frame. Double creeling is feasible.

Two sections of wide-gauge Saco-Lowell three-over-four drawing will be used. From the drawing section, the roving is fed to a press roll; and this transfer is the only out-of-control point in the process. The drawing section is mounted on rollers, and it is set to the press roll by a gauge, but the setting is not critical.

The flattened roving sticks to the press roll, which is moist, and the roving is quickly saturated at the nip of the press roll and main cylinder, where a pool of polyvinyl alcohol is held by the surface tension between the two rolls.

Around the top of the main cylinder, five round rub rolls reciprocate in union, but they are spaced so that no roll rubs in the same spot.

From the first rub roll, the yarn is delivered to a drying chamber, which has Teflon roller guides for each strand and separate Pyrex drying tubes. The length of the tubes is not critical (the longer the better). Because of wall friction, the air moves faster in the center of the tube; and the yarn is kept away from the tube walls. (When it touches a tube wall, the yarn sticks.)

From the drying tubes, the yarn is blown on through copper tubes to the winding frame. The strands of yarn are then fanned through guides to the traverse guides and wound on a jack-spool winder.

Drive-Generator

Power for the entire process is supplied by a U. S. Vari-Drive; the half-unit prototype is equipped with a 15-hp. drive, but full production models will require only a 7½-hp. Vari-Drive.

One shaft from the Vari-Drive leads to the oscillating cam mechanism for the rub rolls; and the other shaft leads to a 3½-kw. generator, which supplies power for three standard ¾-hp. motors, one each for the draw frame, the rub rolls and cylinder, and the winding frame. Through a variable-voltage control, all three motors stay synchronized with each other and the variable-speed drive shaft.

To maintain tension, the press-roll and winder are given slight leads through sprocket drives. **(T-1)**

EQUIPMENT AND SUPPLY NEWS

Automatic Cloth-Inspection Machine

The Lindly automatic fabric inspector, developed by Lindly Instrument & Machine Corp., 248 Herricks Rd., Mineola, N. Y., detects defects such as slubs, knots, gouts, smashes, floats, mispicks, harness skips, broken picks, thick places, thin places, etc. and defines the defect area for visual grading.

A lighting unit on the machine contains a light over each 2 ins. of width; and when a defect is picked up by the mechanical detecting feeler, a light appears directly above the defect. Instead of scanning the material for defects, the operator watches the lights; and wherever one lights, the defect is immediately in front of it. If the defect is to be removed, the machine can be stopped automatically.

Instead of lights, an automatic marking unit can be furnished. A marking unit is desirable for woolens, worsteds, and quality material that is burled and mended in subsequent operations. Instead of a light appearing, a chalk mark is placed over the defect.

Also provided, as optional equipment, is a recording unit, which records the number of defects, the yard it appears in, and the size. This recorder is necessary if the point system of grading is used.

The machine can be adapted to existing inspection frames, or the frame can be purchased with the machine.

Estimates of labor savings range from 25 to 75%, depending on the type of fabric and the method of inspection used.

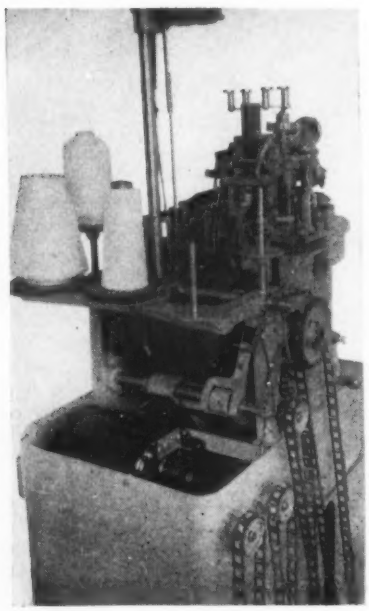
When it acts as a seam jumper, the machine speed can go up to 150 yds. a min. on calender rolls or a shear. For the lighting operation, speed is about 60 yds. per min.; and for marking, 45 yds. per min.

Warp defects, in most cases, cannot be detected because the cost would be too high. However, warp defects can be recorded by a push-button attachment to the computing unit; when the operator sees the warp defect, she presses a button corresponding to the size. Generally, warp defects are easier for the operator to detect; and since she does not look for other defects, inspection speed can be greatly increased.

Basic machines are 50 ins. wide, but machines with other widths can be made to suit the requirements of a fabric.

Duplicate mechanical parts and electronic circuits simplify the operation and keep maintenance to a minimum. Simple, quick adjustments set the machine to detect defects of any desired size. The inspector who operates the machine can be easily taught to maintain and adjust it, including the electronic controls. No engineer or electrician is needed. Plug components are used for simplicity. **(T-2)**

Fidelity-400 Hosiery Machine



The electronically controlled, automatic circular-hosiery machine introduced by Fidelity Machine Co., Inc., 3908-18 Frankford Ave., Philadelphia, Pa., is specifically designed for 400-needle seamfree hosiery, and the machine is completely equipped with electric stop motions for heel and toe yarns and stop-motion protection in case of needle breakage. A simplified yarn-tension device is mounted directly above the dial.

The switch-cam bracket and cam-ring section are complete unit assemblies. All cams in the knitting head are tool steel, and sinker cams are tipped with Carboloy. All movements for the linkage are controlled by adjustable connecting links.

The pattern chain is at the side of the machine for convenience, and a chain-reset handle is provided for safety. A size-marking unit is also attached.

Other features: foolproof needle-picking mechanism, accessible area for replacing needles, and a dial that is easy to transfer. All present needles and sinkers in use are interchangeable with the Fidelity 400.

A positive-grip timing belt drives the cam drum, which has an 8-in. dia. to make style changing easy. All speeds are precisely controlled from the master drum. While the drum is being indexed manually, the knitting head is protected by a drum-pawl safety guard.

A red light, which lights when the machine stops, can be seen 100 ft. away. This feature is of value to mills with large knitting rooms.

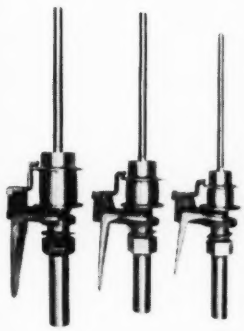
This new electronic motor control includes an anode transformer with a 220-, 440-, or 550-v. primary. A 24-v. secondary tap provides low-voltage power for the yarn-break stop motion. The control box slides out of the machine cabinet for inspection.

Dimensions: 29x27 ins., with a height of 46 ins. Weight: 550 lbs. **(T-3)**

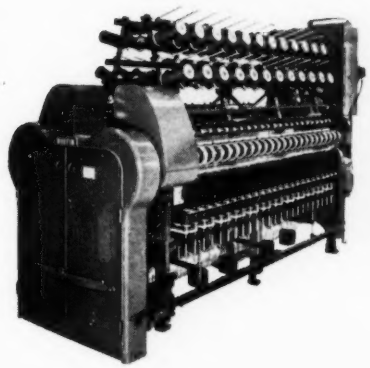
TWISTING SPINNING

number three of a series depicting

MORE AND BETTER TEXTILE PRODUCTION WITH HYATTS



Various sizes of Whitin Twister Spindles equipped with specially-designed Hyatt Roller Bearings



Whitin Model BW Worsted Spinning Frame with cylinders mounted on Hyatt Wound Roller Bearings

Thousands of Hyatt Roller Bearings applied to spinning and twister frames have demonstrated outstanding advantages throughout the textile industry.

ON CYLINDERS, Hyatts provide smoother operation with less power, less lubrication and hence lower maintenance cost. Their sealed housings also assure clean tapes, frames and floors by preventing lubricant leakage.

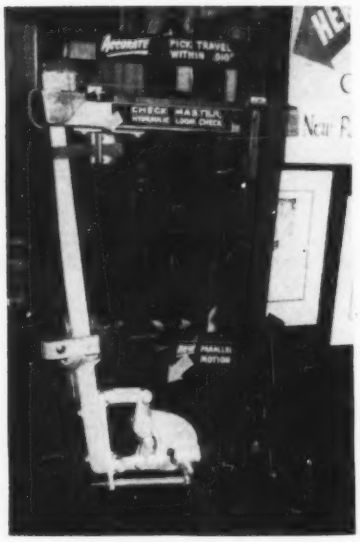
IN SPINDLES, Hyatts permit higher speeds with more production per spindle. Reduced friction also means less tape slippage—more uniform spindle speed and more uniform yarn. Moreover, Hyatt-equipped spindles can easily carry the larger packages now favored by textile mills—another reason why you're always sure of *more and better textile production with HYATTS!*

For further details on the profitable application of HYATT Roller Bearings to textile machinery, request Bulletin T-54 from Hyatt Bearings Division, General Motors Corporation, Harrison, New Jersey

HYATT ROLLER BEARINGS

STRAIGHT BARREL TAPER

Parallel and Checking Motions



Two loom motions designed to be used together, a parallel motion and a hydraulic checking motion, have been developed by W. D. Dodenhoff Co., Inc., Greenville, S. C.

The parallel motion is claimed to hold the picker within 0.010 in. of a straight line for 10 ins. of picker-stick travel.

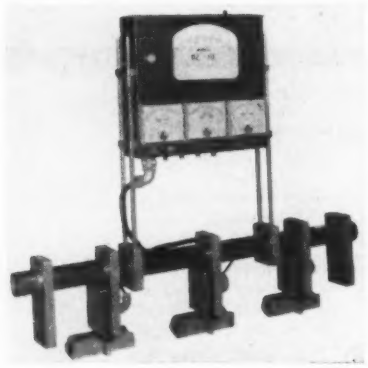
Other features: (1) Easy adjustment; the only adjustment is loosening a nut and turning an eccentric stud. (2) Picker sticks and endless checkstraps, if used, can be changed without readjusting the motion. (3) Shuttle marks in the cloth are eliminated. (4) Tests show there are 62% fewer warp ends down. (5) Picker sticks are positively controlled. There's no up or down movement. (6) Needle bearings eliminate wear and require little lubrication.

The hydraulic checking motion was designed to remove most of the checking of shuttles from boxes and binders.

The checking apparatus is a small cylinder fastened to a bracket, which is bolted at the lay end. Only four metal parts and one rubber seal are used in the checking cylinder.

Features: (1) The only adjustment necessary is to set the length of a small strap at the picker stick. (2) Because of overcoming the boxing-limiting factors when friction is used, loom speed can be increased 10 to 20 ppm., depending on the cloth woven. (3) The checking device checks 50% of the power on the power stroke of the picker stick. (4) Shuttle binders can be set to eliminate heavy tension on binders, and box heating and the usual shuttle wear are stopped. (5) The loom starts up after week-end shutdowns without any variation in shuttle boxing. **(T-4)**

Two-Way Lap Control



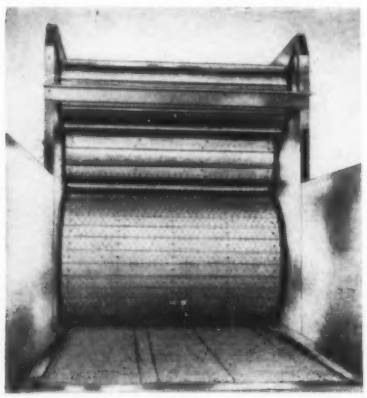
A picker-lap tester for the continuous measurement and control of both longitudinal and lateral lap thickness has been developed by Brush Electronics Co., 3405 Perkins Ave., Cleveland, Ohio, in cooperation with the Institute of Textile Technology.

In operation, three measuring rollers are in contact with the lap as it passes over the calender rolls. Lap unevenness causes roller movements, which are converted into electrical signals; and since each roller is connected to a separate meter, variations shown by individual meters indicate longitudinal variations in lap weight. Variations shown by comparing the meters with each other indicate lateral variations in lap weight. Actual weight, minus moisture content, is indicated. The three readings are averaged on a third meter.

Lap unevenness and weight can be permanently recorded by use of a recording device, and the recorder can be remotely located.

Both the optional recorder and the meters are calibrated to show ounces per yard without computations. Routine operating adjustments are controlled from a calibration-operation switch with five positions. **(T-5)**

Opener and Rotary Feed



Sargent's Sons' new combined opener and rotary feed handles heavy grease wool and dyed cotton and synthetics. The rotary evener and stripper provide a smooth operation; and with no feed rolls to hold the stock while it is being picked, fiber damage is minimized. Rugged construction is a feature.

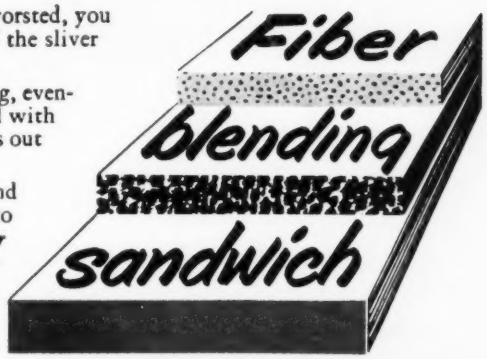
Available from C. G. Sargent's Sons Corp., Graniteville, Mass., the machine has a main cylinder up to 72 ins. wide with a diameter of 48 ins.; and the cylinder is covered with heavy hardwood lags holding two or three rows of hooked hard-steel pins. (Stainless-steel pins are optional.) The evener, with a 24-in. stripping beater, is mounted directly above the main cylinder and runs at a faster speed in the opposite direction; straight pins on the evener roll are meshed with the pins on the main cylinder. The horizontal feed apron has a variable-speed drive.

A heavy-duty 80-in. opener and 72-in. press-roll machine would have a capacity of 2,000 to 3,000 lbs. of heavy grease wool or 2,000 lbs. of dyed cotton or synthetic fibers per hour. Horsepower requirements would be 9 hp., 7½ hp. for the machine and 1½ hp. for the feed apron. Length: 21 ft., 7½ ins.; width: 13 ft. **(T-6)**

COLORS When blending colored fibers for Bradford or French worsted, you can actually see the colors spread evenly across the width of the sliver as the *melangeur's* layers are sandwiched together.

SYNTHETICS The laboratory will confirm the same deep blending, evenness of sliver and weight regularity in blends of natural wool with synthetic fibers or cotton. One high production *melangeur* cuts out many doubling-blending operations.

FASTER Further drawing progresses faster, with less attention and consequently at lower cost. When you are considering ways to improve blending, remember *melangeur* is French for *blender* and is manufactured by the Societe Alsacienne de Constructions Mecaniques. In America, Atkinson, Haserick & Co. offers engineering, installation and parts service for *melangeurs* and all the preceding and following operations, an unequalled service to worsted mills.



3 Dimensional Blending

In this *melangeur* (mixer intersecting), the different fibers are formed into a sandwich blend. Perfect regularity is obtained in all dimensions: cross sections at any point in the length of the sliver will not vary in composition. May we show you a blended sample, as delivered into this rectangular can or wound into a ball?

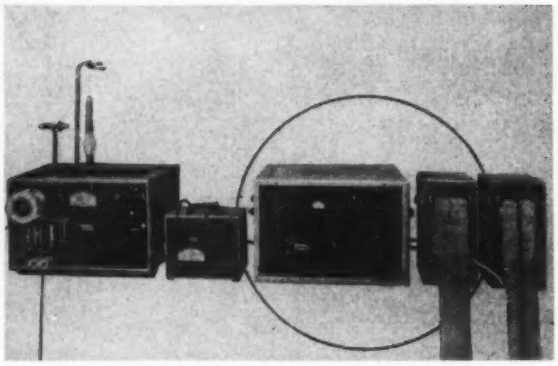
SACM

SOCIETE ALSACIENNE
DE CONSTRUCTIONS MECANIQUES
MULHOUSE, FRANCE

a. h.

Atkinson, Haserick & Co.
TEXTILE MACHINERY AGENTS & ENGINEERS SINCE 1823
211 CONGRESS ST., BOSTON 6, MASS.
1639 W. MOREHEAD ST., CHARLOTTE 2, N. C.

 For more information, write direct or use Reader Service post card.



Draft-Wave Recorder

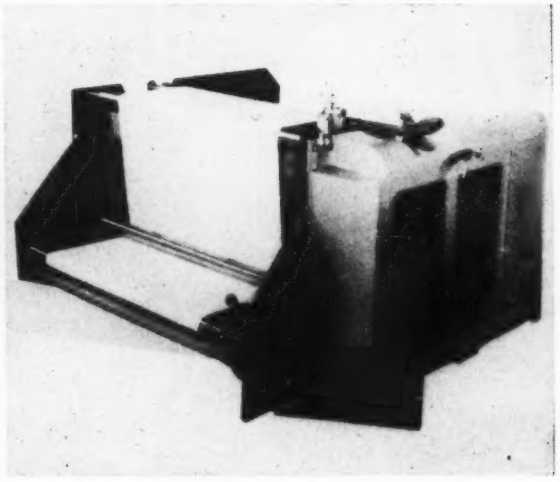
The Spectrograph, an attachment for the Uster evenness tester, indicates the character of irregularities in yarn, roving, and sliver by recording the wave length of the variations; a direct value is given.

The attachment, available from Uster Corp., 2516 Wilkinson Blvd., Charlotte, N. C., is said to indicate from yarn tests alone the manufacturing process that is causing unevenness. Three practical applications of the Spectrograph:

1. With new stock of unknown character, optimum drawing-frame settings can be determined. When the working conditions of the drawing process are altered, few wave-length variations are influenced with each change; and the effect of each drawing setup can be judged.

2. By analyzing each drafting process in turn, the contribution that each process makes to irregularities can be determined. By following the increase in wave length, the effect of doublings can be determined.

3. Since the Spectrograph measures wave-length differences that tend to average out in average-irregularity figures, variations that will cause fabric stripes, but which are not detected by average figures, are detected; and yarn can be better evaluated for its tendency to make unacceptable fabric. **(T-7)**



Selvage Trimmer

The new Hi-Speed selvage trimmer, developed by Hermas Machine Co., Warburton Ave., Hawthorne, N. J., removes all selvage threads at speeds up to 150 yds. per min. with one pass through the machine. The trimmer unit is automatically guided to the selvage at all times, regardless of selvage deviations from width variations caused by tension changes or uneven cloth guiding; and it does not touch the face or back of the cloth.

The machine takes rolls of cloth up to 36 ins. in diameter and can be furnished in any width desired.

Box-loom loops, which cannot be trimmed until they are converted to hanging ends, are converted on the new selvage trimmer with a loop-clipping attachment.

The trimming unit has its own integral suction, exhaust, and collecting component. It is available as single or double units for mounting on many existing machines, or the unit can be incorporated into a complete selvage-trimming machine with a take-up unit. **(T-8)**

Twist Setter

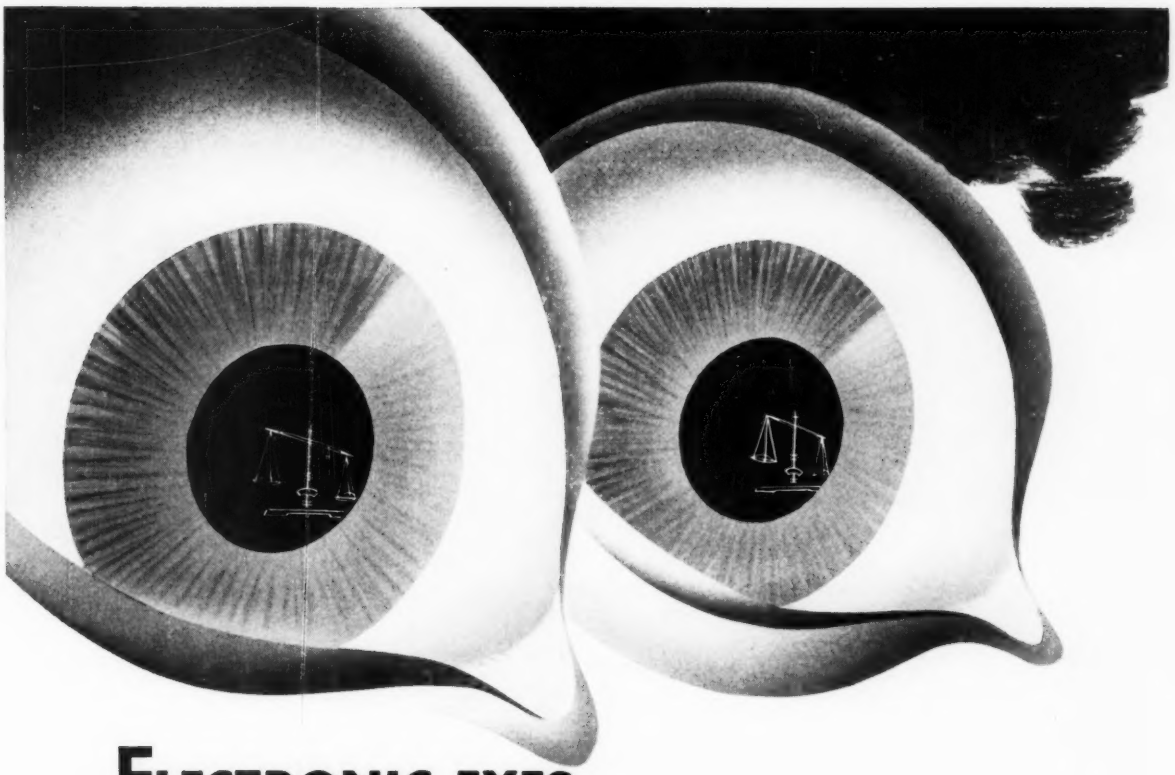
New Lydon automatic vacuum-pressure twist setters for synthetics and high-twist yarns are available from Lydon Bros., Inc., 852 Zabriskie St., Hackensack, N. J. The twist setters are available in four standard vessel sizes, 48x54, 60x54, 72x54, and 90x72 ins., with a carbon- or stainless-steel construction. The two smaller sizes have quick-opening doors; the larger sizes have bolted doors.

Features: yarn is uniformly set; penetration is rapid and thorough; cycles are accurately reproduced; and the complete cycle is fully automatic: vacuum (maximum of 30 ins.), steam injection, steam relief, vacuum withdrawal of moisture, and breaking the vacuum to end the cycle. The vacuum is brought down to a minimum of 21 ins. in 1½ or 2 mins.; and all models have an exterior covering of 2-in. Fiberglas insulation. Electrically operated portable lifts can be supplied if needed. **(T-9)**

Hy-Lo Indicator

The recurrent appearance of thick or thin spots in the cross section of a yarn is an important quality consideration. The automatic Hy-Lo Indicator, available from Uster Corp., Wilkinson Blvd., Charlotte, N. C., will indicate at a glance the exact number of thick spots and the exact number of thin spots that exceed predetermined limits. The indicator operates through the Uster evenness tester. It is possible to record the extreme cross-sectional deviations of any length of yarn. Standard value charts have been prepared for means of comparison.

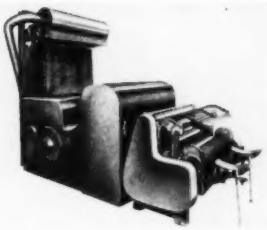
Technical data: (1) upper-limit measuring range: +40% to +90%; lower-limit measuring range: −20% to −70%; (2) limit scales are calibrated in percent deviation from the average value of the cross section; (3) counts are indicated on four-figure meters with a sensitivity of 600 impulses per minute. **(T-10)**



ELECTRONIC EYES
CONTROL THE BLENDING OF SYNTHETICS

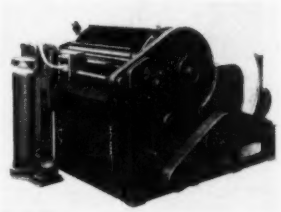
World's first line of machinery designed for blending rayon and synthetics achieves 0.7% accuracy

WITHOUT FIBER DAMAGE baled material is opened and combed on the high-speed spiked lattice of the Lattice Opener. The small tufts formed are pneumatically stripped and fed to the next machine on demand.



INTENSIVE OPENER'S electronic eye controls the delivery from the Blending Machine. A Licker-In type beater is pneumatically stripped and the fibers are condensed to build a sheet which is calendared into a uniform undamaged lap.

PARALLELIZED SLIVER, appearing to have already been once through a drawing frame, is formed by the unique carding action of the Lap Converter. Final blending accuracy is 0.7% with a waste loss of apx. 0.25%. Full data is available.



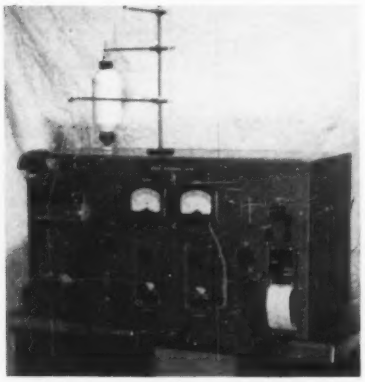
FOUR METERING CHUTES of the Blending Machine, with electronic eyes, control the feeding of the constituent fibers from each of the lattice openers. Delivery rollers on each chute meter the required amount of fibers to hold the blend constant in the next machine.

PLATT BROS.
SALES LTD. OLDHAM, ENGLAND

a. h.

Atkinson, Haserick & Co.
TEXTILE MACHINERY AGENTS & ENGINEERS SINCE 1823
211 CONGRESS ST., BOSTON 6, MASS.
1639 W. MOREHEAD ST., CHARLOTTE 2, N. C.

Capacitance-Type Unevenness Tester



The Sigma unevenness tester measures the unevenness of yarn, roving, sliver, and top. It incorporates an integrator, which gives standard deviation and coefficient of variation on a specific sample of yarn; the integration is performed by summing the squared deviations from the actual mean.

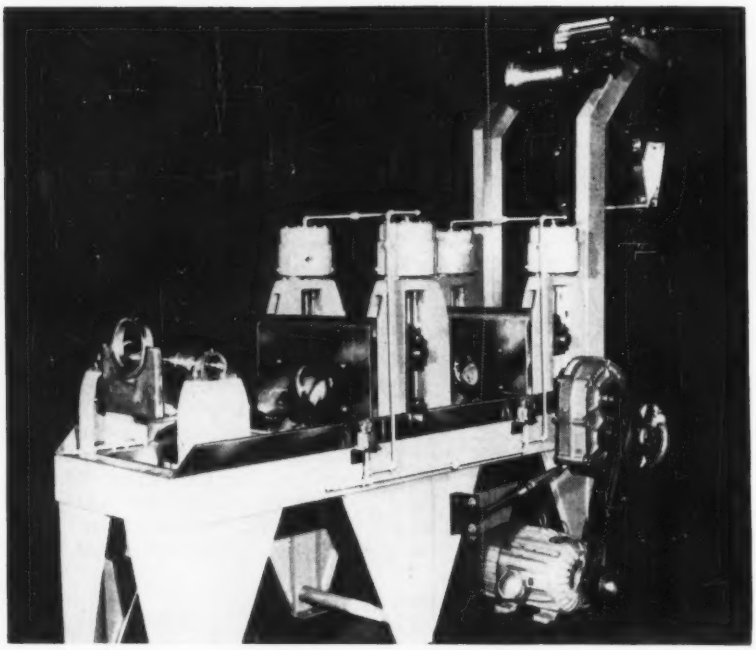
The integrated length is automatically marked on the recorder chart. Given the two integrator readings, the coefficient of variation can be read directly from graphs provided.

Developed jointly by Electronic Associates Ltd. (and available from this company), 4616 Yonge St., Willowdale, Ontario, Canada, and Ontario Research Foundation, the capacitance-type instrument has no zero drift; and the results are reproducible. Testing speed can be set at 6, 12, and 48 meters per minute.

Other features of the instrument:

Yarn-to-chart-speed ratios, 10 to 1 or 100 to 1, are selected by a control knob and are constant and accurate; the recorder is built into the instrument and driven from the yarn drive. A 4X magnification is available.

Integration time is usually 30 secs.; but integration time up to 5 mins., in increments of 30 secs., can be used. In 30 secs., the integrator takes 1,800 evenly spaced readings. **(T-11)**



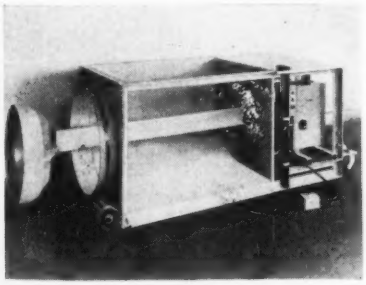
Improved Cloth-Soaping Machine

A more-efficient model of its cloth-soaping machine has been developed by James Hunter Machine Co., North Adams, Mass.

With a new Rotochamber pneumatic-pressure system for the squeeze rolls, the machine provides accurate control of the soap content of the cloth and the maintenance of a uniform soap content from lot to lot. It is claimed that the machine will completely eliminate the labor required in manual soaping operations, while reducing soap costs by as much as half.

Soap costs are reduced by the small-capacity tanks, which provide faster circulation of the soap and cut down soap loss at the end of a run. A counterflow keeps the soap supply free of impurities up to the last squeeze, and bright whites and vivid colors result.

To cut maintenance and make cleaning easier and faster, stainless steel is used throughout the machine. Stainless-steel splash guards, located at each squeezer along the edge of the tanks, deflect the splash back into the tanks, and the surrounding floor area is kept dry. **(T-12)**



Automatic Bagger

A new automatic model of the Windle Horizontal Bagger has been introduced by W. W. Windle Co., Millbury, Mass.

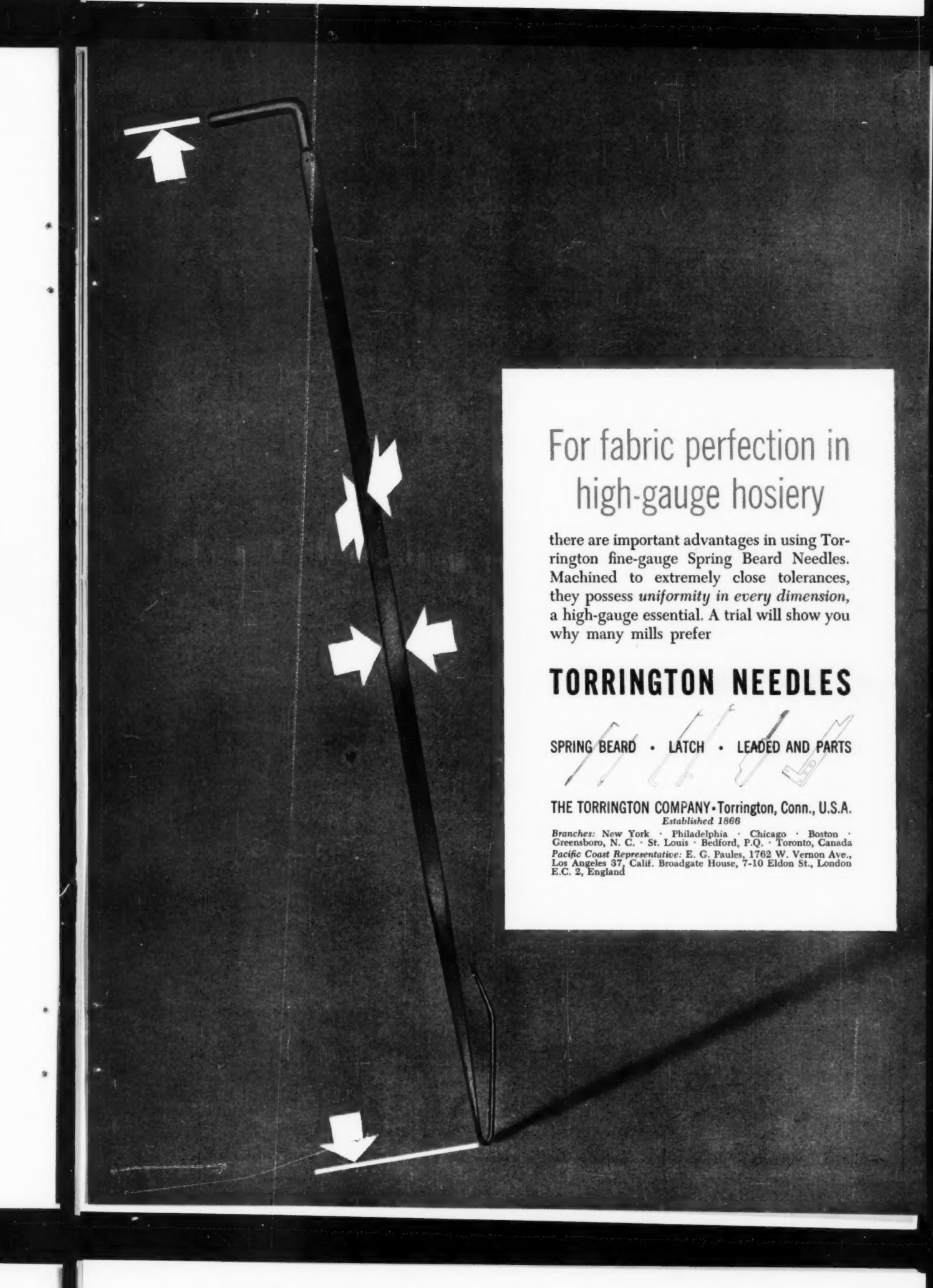
The new machine is portable; it moves on free-wheeling, self-lubricating casters; and the operator can move the machine to the stock. Its horizontal structure eliminates the need for holes in floors, and it can be fed directly from overhead or from the side.

All stock, such as wool, waste, or yarn, can be handled by the bagger. The machine is capable of packing 1,000 lbs. of scoured wool in one man-hour of work. It is operated by push-button or foot controls, and the pressure is adjustable.

A U. S. Syncrogear ¾-hp. geared and braked motor is operated by Cutler-Hammer electrical controls. Dimensions are 3x3 ft., with a 12½-ft. over-all length and 6½-ft. steel frame. Weight is 800 lbs.; hopper capacity is 18 cu. ft. **(T-13)**

EQUIPMENT AND SUPPLY NEWS

CONTINUED ON PAGE 164



For fabric perfection in high-gauge hosiery

there are important advantages in using Torrington fine-gauge Spring Beard Needles. Machined to extremely close tolerances, they possess *uniformity in every dimension,* a high-gauge essential. A trial will show you why many mills prefer

TORRINGTON NEEDLES

SPRING BEARD • LATCH • LEADED AND PARTS

THE TORRINGTON COMPANY • Torrington, Conn., U.S.A.
Established 1866

Branches: New York · Philadelphia · Chicago · Boston · Greensboro, N. C. · St. Louis · Bedford, P.Q. · Toronto, Canada
Pacific Coast Representative: E. G. Paules, 1762 W. Vernon Ave., Los Angeles 37, Calif. Broadgate House, 7-10 Eldon St., London E.C. 2, England

NEW DYES and CHEMICALS

Leveling Agent

Nopcotex A . . . is claimed to be effective as a leveling agent in dyeing Acrilan-wool blends. When used with a nonionic dispersing agent, Nopcotex A promotes migration of dyestuff from the wool to the Acrilan. In practice, the wool is dyed in a bath containing a nonionic dispersant until the dye is exhausted onto the wool; then 2 to 3% of Nopcotex A is added (o.w.g.). The dye migrates to the Acrilan, with good unions of good fastness to light and washing. Acid colors, including chrome and neutral dyeing types, are used. Nopco Chemical Co., Harrison, N. J. **(D-1)**

Plasticizer and Conditioner

Nopco GS#10 . . . is offered as an internal plasticizer and conditioner, said to be useful as a conditioning agent for cellulosic films and fibers, cork compositions, fiber gaskets, woven paper, fiber specialties, and antistatic compositions. Described as being an excellent softener with a viscosity, specific gravity, hygroscopicity, and pour point very similar to glycerine. It is an ethylene oxide condensate of an organic amide, soluble in all proportions in water and having a pH of 7.2 ± 0.2. Nopco Chemical Co., Harrison, N. J. **(D-2)**

Polyvinyl-Acetate Resin

Nopco Resin VA . . . is an improved polyvinyl-acetate emulsion for use on cotton and rayon fabrics. Said to impart body and stiffness economically and does not require boiling for application. Very stable emulsions of fine particle size produce continuous water-white films that do not yellow in normal use. Re-fusion on ironing restores the original crispness of the fabric after laundering. Nopco Chemical Co., Harrison, N. J. **(D-3)**

Gray Vat Dye

Mayvat Grey 2G Double Paste . . . is described as an extremely lightfast gray with excellent wet-processing properties. Level dyeing on packages and beams, the color bleeds only slightly on reduction and does not require salting except in heavy shades. Glue is recommended as an additive in dyeing pastel shades. Otto B. May, Inc., Newark, N. J. **(D-4)**

Plisse Printing Assistant

Seyco-Merse CP . . . is offered for use in caustic solutions that are used in plissé printing. A powerful wetting agent that promotes penetration of the caustic solutions or print paste and aids in giving sharp definition, it does not affect thickeners normally used in plissé printing and is stable and economical to use. Seydel-Woolley Co., Atlanta, Ga. **(D-5)**

Resin Finish

Emboset NR . . . a new thermosetting resin for nylon and other hydrophobic fabrics that is used to produce firm, resilient hands that are durable to dry-cleaning and laundering. Stable in storage, the bath life is longer than that of conventional-type resins. It is claimed that Emboset NR does not increase the flammability of light nylon fabrics. Softeners, gums, polyvinyl acetate, and other finishing materials can be used with it. Metro-Atlantic Inc., Centerdale 11, R. I. **(D-6)**

Antistatic Agent

Niatex Anti-static Agent AG-1 . . . is a durable antistatic material that withstands repeated launderings and dry-cleanings. Supplied as a 40% solution of active material, it is applied to all types of natural and synthetic fibers by padding. From 3 to 5% of the weight of the goods is necessary, and the goods are dried at moderate temperatures. They are then heated to 190 to 300° F. for 10 mins. for fixation. Afterwashing may be indicated to improve the hand. Carbide & Carbon Chemicals Co., New York, N. Y. **(D-7)**

Nylon-Wool-Blend Dyes

Vialon Fast Dyes . . . a new series of colors for nylon and wool blends. Said to be level dyeing, to give excellent union shades, and to leave Orlon and Dacron white. Fastness to light, washing, crocking, and perspiration is good. Nova Chemical Co., New York, N. Y. **(D-8)**

Amphoteric Surfactant

Antaron FC-34 . . . is cationic at pH 4.5 or lower and is anionic at pH 8.5 or over. Neutral solutions are very weakly ionized. Antaron FC-34 is stable to acids, alkalis, and hard water. Foams well with or without soap and has wetting, dispersing, and detergent properties. Used in wool fulling to produce a wide range of effects from heavy felting to mild scouring, as required. Well suited to fulling and neutralizing carbonized woolens in the fulling mill and for acid fulling. Antara Chemicals, New York, N. Y. **(D-9)**

Softener for All Fibers

Soromine AT . . . is a new amphoteric softener supplied as a white paste. It gives excellent softening effects on animal, cellulosic, or synthetic fibers. Applied on jigs, becks, or pressure machines, it is claimed to give a full, soft hand to piece goods, yarn, stock, or hosiery. May be combined with conventional resins, sulfonated oils, or other materials and does not affect shade or reduce lightfastness. Resists yellowing during storage or high temperatures.

Substantive effects can be produced in acid solutions if desired, but in neutral or alkaline solutions the product is nonsubstantive. It is stable to acids, alkalis, and hard water. Antara Chemicals, New York, N. Y. **(D-10)**

Imported Vat Dyes

Palanthrene Colloisal vat dyes . . . are distinguished by exceptionally small particle size of less than 1 micron. Used in pigment form for package dyeing, they are said to give unusually level results with no filtering action. Fastness properties are characteristic of the vat-dye class. Nova Chemical Co., New York, N. Y. **(D-11)**

Printing Resins

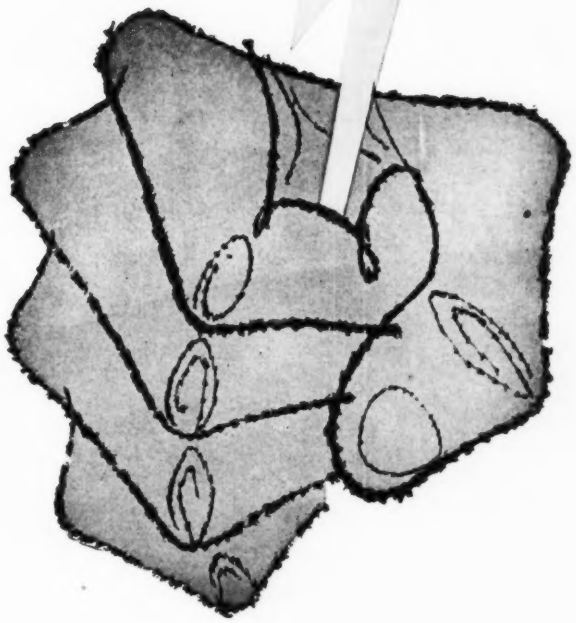
Bondrez 409 . . . is a water-phase metallic pigment binder that gives excellent pigment retention, fast to washing and dry-cleaning. Will withstand friction calendering.

Bondrez 20-C is a water-phase metalic pigment binder for screen printing. Has good furnishing characteristics and excellent pigment retention through dry-cleaning and laundering.

Bondrez WNS is a white pigment-binder combination. A water-phase emulsion, it can be used as supplied or cut with normal printing thickeners. Will stand 320° F. for 1 min. without discoloring. Applicable to cotton, rayon, and silk but not to nylon. Stein, Hall & Co., New York, N. Y. **(D-12)**

STOP STATIC PROBLEMS

with TWITCHELL 7421 OIL



controls static on modern blends and high-speed machinery!

Improve your quality and increase production yet hold down costs with this superior fiber lubricant.

You'll find that Twitchell 7421 Oil will control static build-up regardless of machinery or fibers used... yet this modern fiber lubricant is in the medium price range and possesses all other requisites of a modern fiber lubricant.

Since actual performance tells our story better than words, we urge you to try Twitchell 7421 in your plant... to see for yourself why it is the best value available.

excellent lubricity • high emulsion-stability • fluid emulsions

non-yellowing

rust inhibiting • easily scoured

If you would like a complete evaluation of Twitchell 7421 Oil as compared to eight leading medium priced wool and worsted oils, write to Dpt. W-12 for brochure titled, "TWITCHELL 7421 OIL."

Emery

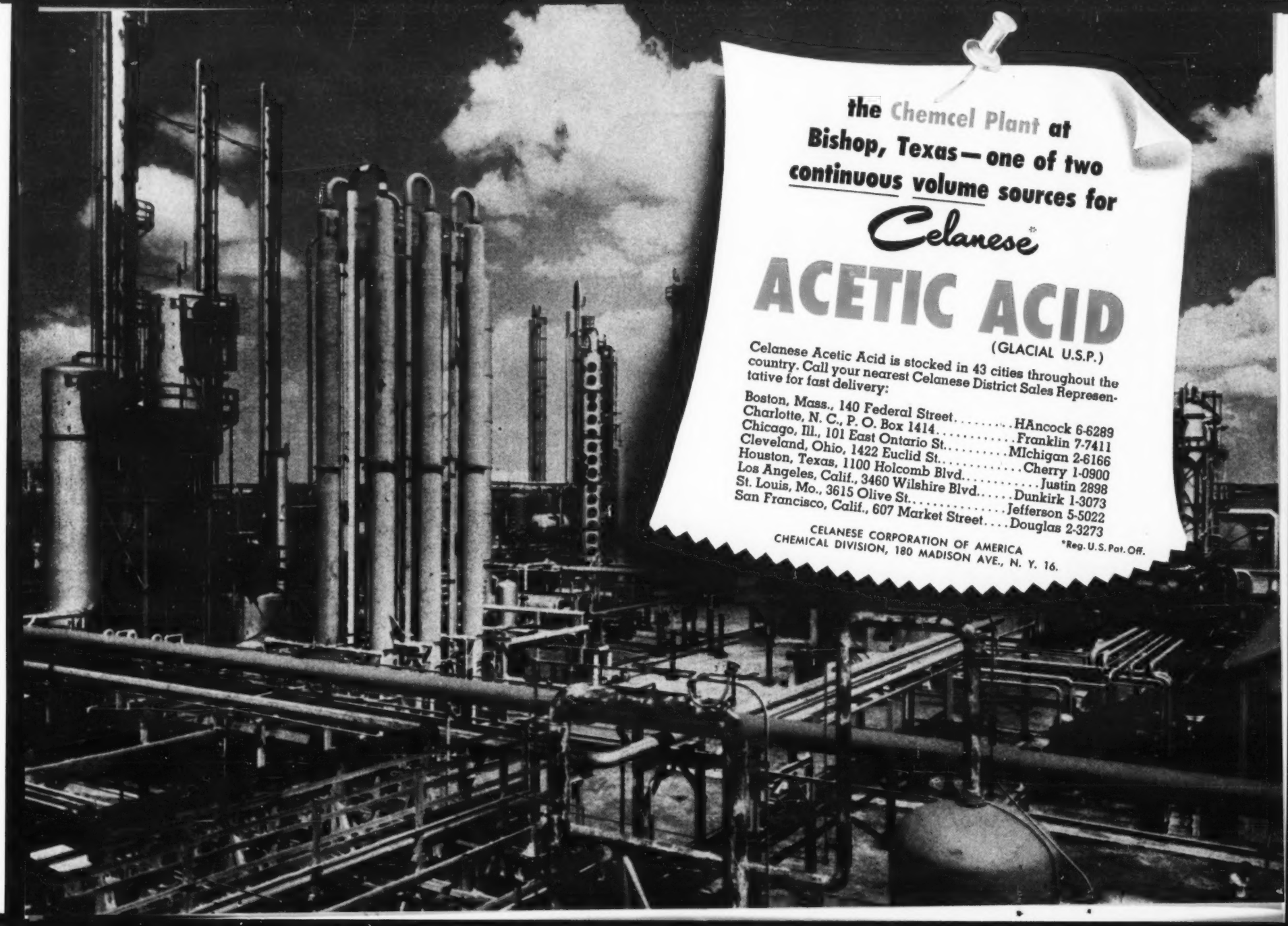
Fatty Acids & Derivatives
Plastolein Plasticizers
Twitchell Oils, Emulsifiers

Emery Industries, Inc., Carew Tower, Cincinnati 2, Ohio

New York • Philadelphia • Lowell, Mass. • Chicago • San Francisco • Cleveland

Warehouse stocks also in St. Louis, Buffalo, Baltimore and Los Angeles

Export: 5035 RCA Bldg., New York 20, New York


the Chemcel Plant at
Bishop, Texas—one of two
continuous volume sources for
Celanese*
ACETIC ACID
(GLACIAL U.S.P.)
Celanese Acetic Acid is stocked in 43 cities throughout the country. Call your nearest Celanese District Sales Representative for fast delivery:
Boston, Mass., 140 Federal Street.....HAncock 6-6289
Charlotte, N. C., P. O. Box 1414.....Franklin 7-7411
Chicago, Ill., 101 East Ontario St.....MIchigan 2-6166
Cleveland, Ohio, 1422 Euclid St.....Cherry 1-0900
Houston, Texas, 1100 Holcomb Blvd.....Justin 2898
Los Angeles, Calif., 3460 Wilshire Blvd.....Dunkirk 1-3073
St. Louis, Mo., 3615 Olive St.....Jefferson 5-5022
San Francisco, Calif., 607 Market Street....Douglas 2-3273
CELANESE CORPORATION OF AMERICA
CHEMICAL DIVISION, 180 MADISON AVE., N. Y. 16.
*Reg. U.S. Pat. Off.

Letters From Readers

ROUND TABLE

What's on your mind?

We welcome your comments. Whether you agree or disagree, with us or anybody else, we will be glad to have you air your views.

Unless you ask us not to, we will use your name and company connection when your letter is printed. If you prefer to have your opinions appear unsigned, we will respect your confidence by using only a set of initials.

Write to Editor, Round Table, TEXTILE WORLD 330 W. 42nd St., New York 36, N. Y.

THE HUMAN ELEMENT IN QUALITY PRODUCTION

Dear Editor:

Your readers may be interested in the philosophy of a hosiery-mill superintendent who explains his approach to his job this way:

"I don't spend hours poring over charts trying to increase my production or improve my quality. I go out in the mill and talk to Tom, Dick, and Harry. We chat about fishing, gardens, golf, wives; and I just casually mention that our production should be a little higher or that our quality has slipped a little.

"In a week's time, you can see the results."

H. W.

Greenville, S. C.

TW'S NEW COVER

Dear Editor:

Perhaps you would like to know how favorably we are impressed with the face-lifting job you have done with the cover of TEXTILE WORLD.

We feel that it gives TW a new personality and distinction.

HERBERT L. WERNER

Werner Textile Consultants
New York, N. Y.

HOW SANFORLAN WORKS

Dear Editor:

We refer to the article "Here's a Round-up on Washable Woolens" by E. A. Murray on page 87 of your September issue.

We wish to make it clear that the Stevenson processes, controlled in the United States by Cluett, Peabody & Co., Inc., under the trademark Sanforlan (now being licensed in Great Britain under the trademark Dylan by Stevensons Dyers Limited) are not all chlorination processes. They include oxidization processes in which no halogen whatsoever is used and in which the important wool properties are fully preserved, particularly those of handle and level dyeing.

The article implied that wool treated by a Stevenson process, being a chlorination process, has a harsh handle, which is not the case. Further, one of the processes we employ, being an alkaline oxidation process with slow and controllable uptake of chemicals, permits successful application to heavy fabrics, such as blankets, without over-treatment of surface fibers, as your article suggests.

M. C. STEVENSON

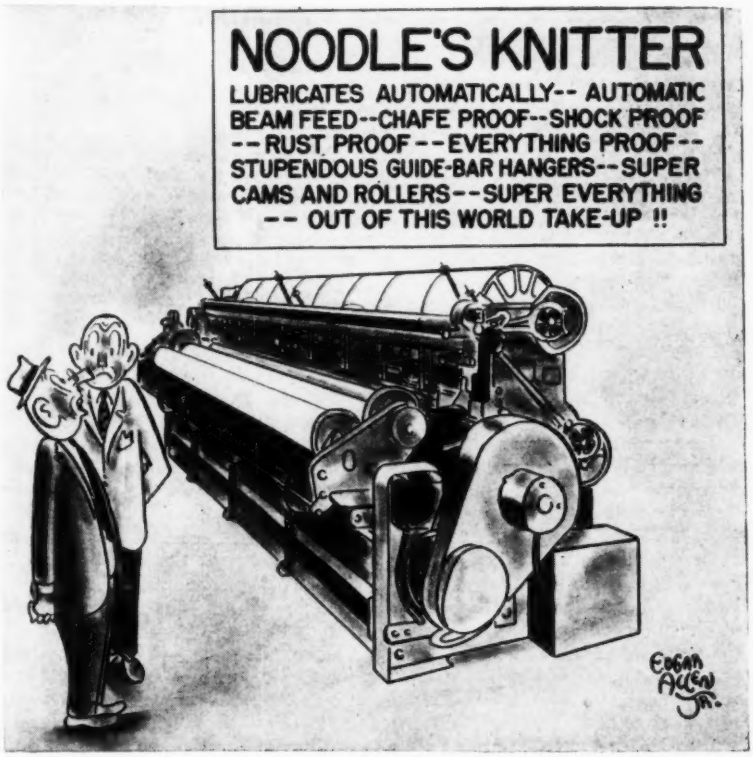
Stevensons Dyers Ltd.
Ambergate, England

IS YOUR BULLETIN BOARD A GOOD NEIGHBOR?

Dear Editor:

Mill management may feel that local government in the community

TEXTILE TICKLES . . . . . *By Edgar Allen, Jr.*


NOODLE'S KNITTER
LUBRICATES AUTOMATICALLY-- AUTOMATIC BEAM FEED--CHAFE PROOF--SHOCK PROOF --RUST PROOF--EVERYTHING PROOF-- STUPENDOUS GUIDE-BAR HANGERS--SUPER CAMS AND ROLLERS--SUPER EVERYTHING -- OUT OF THIS WORLD TAKE-UP !!
EDGAR ALLEN JR.

"But does it knit?"

has not been understanding or cooperative. Possibly there may be grounds for this belief. However, management might try taking the initiative to extend a bit of cooperation.

Have your bulletin boards been confined to subjects that are selfish? Does the essential welfare of the mill leave no space for the important welfare of the community, too? Using part of the mill's bulletin board to boost worth-while ideas relating to the community is an inexpensive way to prove a willingness to cooperate with local officials in solving major problems.

While mill men certainly want to avoid taking sides in arguments, there are many matters on which local government needs all the help it can get. Such broad fields as better schools, conservation, clean streets and parks, accident prevention on the highways, and youth problems all offer opportunities for mill management to demonstrate its interest in the community as something more than a place to earn a profit.

Your bulletin boards may not be any more than a small influence for good. But the important thing is to prove your eagerness to cooperate in those things that are best for the community. That attitude opens the way for improved public relations.

GEORGE M. DODSON

Harrisburg, Pa.

Weave-Room Noise Reduced

An appreciable noise reduction has been achieved by sound conditioning in a new weaving-mill extension in the Tayfield Works of H. & A. Scott Ltd., jute manufacturers, Dundee, Scotland.

The company called in a firm of acoustical consultants, who found that little could be done to reduce the intensity of mechanical noise created by the looms; but they pointed out that working conditions could be considerably improved by eliminating reflection of sound waves from the walls and roof slopes.

Large sound-absorbent tiles, made of special fibre perforated with holes, were fixed to the walls. Sound waves strike the walls, enter the holes in the tiles, and are dissipated internally among the fibres instead of being reflected back into the factory as would be the case from hard-surface walls.

The noise of weaving in a mill in the same works without sound conditioning registered 104 to 105 decibels at the loom and 103 to 104 decibels at a distance of 18 ft. The equivalent readings in the sound-conditioned extension were reduced to 97 and 92.

QUESTIONS

▶ **TEXTILE WORLD'S editors are at your service to help solve your problems in yarn manufacture, weaving, knitting, dyeing, finishing, or other textile operations. If you have a technical problem bothering you, send it along to the Editor, Questions and Answers, TEXTILE WORLD, 201 E. Coffee St., Greenville, S. C.**

Keep Conditions at 63% R.h. for Tricot Knitting

Technical Editor:

What are the ideal conditions for operating tricot and raschel machines? (9831)

Tricot mills keep the humidities at the knitting machines at 60 to 65% r.h. for nylon yarns. The temperature is maintained at 75 to 80° F. Ideal conditions for 40-den. yarn are about 63% r.h. and 76° F.

Raschel mills run slightly lower humidities and temperatures for nylon yarns. Conditions that give excellent results are: 60% r.h. and 70° F. for 40-den. yarns.

Acetate is run on tricot machines at lower conditions than for nylon. Relative humidity of 50 to 55% and temperatures of 75 to 80° F. are preferred.

Mark Roving With Color Combinations

Technical Editor:

We have considerable trouble getting a sufficient range of chalk marks to identify each roving-frame tender's work. We keep a strict daily report of imperfect roving made by each tender. Distinct chalk marks assigned to each tender are essential for us to charge this imperfect work to the tender. What has been the experience of other mills in solving this problem? (9829)

There are 11 or more distinct colors, shades, or tints available for this purpose. By using one or more marks from a single color or two marks of different colors, 76 different combination marks can be made. This number should take care of the needs of any roving organization. Where two shifts are run, this number of available combinations can be doubled by marking the top of the bobbin for the first shift and the bottom of the bobbin for the second shift.

The advantage of having a large number of distinct marks available is that a certain mark may be assigned to each frame tender permanently, regardless of the type of frame or work run by that tender. This method avoids the confusion often caused in sorting imperfect roving when the frame tender's job is changed.

The best method to lay out a suitable system of roving marks is to start by using one mark of each color for the first series. Follow this by using two marks of each color for the second series. For the third series, list all the colors available and number each color from 1 to 11.

Combine No. 1 with No. 2 and then with every other color below it on the list. Proceed by combining No. 2 with each color below it on the list. Continue in this same manner right down to No. 10. This procedure will give 54 different combinations, which, added to the 22 obtained with the one and two marks of the single color, make a total of 76 different marks for use on each shift.

For the tenders' convenience in marking, holders can be made to hold two sticks of chalk of different colors so the marking can be done quicker and with no omission of colors.

Three Methods Are Used For Flock Application

Technical Editor:

How is flock applied to textiles? (9830)

There are three methods of applying flock to the adhesive-prepared surface of textile materials. They are the spray method, the beater-bar method, and the electrostatic method.

The spray method employs a gun, which works on the same principle as the paint spray gun with the exception that it has been devised to handle the dry cut fiber. One type operates from a 1- or 2-qt. container, and another type operates by a hose connection to a tank.

Spray-gun application of flock should be done in a booth to permit the retrieving of the excess fibers. Air used in flock application must be moisture free.

The beater bar is a revolving hexagonal bar. The bar agitates the fabric

and ANSWERS

as the flock is sifted on the fabric to be coated. This action causes the flock fibers on the adhesive-coated side to dance so that the fibers set themselves vertically in the adhesive. The flock can be applied to the adhesive surface by gravity from a hopper onto the moving fabric. Several beater bars can be used, and more than one application of fiber can be made to insure maximum coverage.

The electrostatic method of coating uses high-voltage electrostatic force to propel the fiber to imbed the fibers in the adhesive film. The equipment for electro-coating consists of a positive electrode positioned over a negative electrode.

A conveyor belt carries the loose fibers between the electrodes. The material for coating is passed between the electrodes with the adhesive side down, and the fibers move from the conveyor to the fabric.

Tips on Dyeing Blends With Metallic Yarn

Technical Editor:

What are the best practices for dyeing materials containing metallic yarns? (9833)

Fabrics containing Metlon can be piece dyed, but yarn dyeing has proved more successful so far.

Don't use acetate or union dyes, because they'll dye Metlon.

Dyebath temperature should not exceed 160° F.

Since dyeing practices vary so much, be sure to dye a sample before starting the whole lot. Metlon-rayon blends dye successfully in most cases, but under certain circumstances the rayon dye stains the plastic film of the metallic yarn when blacks or browns are being dyed.

For woolen fabrics, use a regular dyehouse washer with normal threading; but avoid excessive pressure and friction. The squeeze rolls should be open ½ to ¾ in.

Use a normal amount of soap and soda ash, plus 1 to 3 gals. triethanolamine. Follow the normal scouring cycle, but don't let the water temperature get over 140° F.

Don't use solutions containing cresylic acid. Follow regular dyeing procedures, but keep the temperature below 160° F.

Don't use calendering temperatures above those you'd use for acetate fabrics.

How To Reduce Jerk-ins On W-3 Automatic Looms

Technical Editor:

We are having a lot of trouble with drag-ins at the transfer on our W-3 looms on plied and single yarns. How can we stop them? (9828)

First, clean your magazine and lay end. Remove all excess grease that will hold waste yarn from the transfer. Then have magazine hands stop the loom and brush off all yarn waste from the magazine and lay ends at the beginning of each shift.

Be sure the magazine thread cutter is operating correctly. It must cut the filling cleanly and also hold the end.

Since most drag-ins or waste filling comes from the tail dropped by the thread cutter, arrange to have this end held securely when it is dropped. One good way to catch the dropped end is to fasten one end of a 1½x14-in. strip of blanket cloth to the fillister-head screw in the thread cutter and let the other end dangle between the lay and the breastbeam. The dropped ends attach themselves to the blanket cloth and drop to the floor.

The filling-end holder must also hold the end of the newly transferred bobbin of filling firmly. Be sure the rotors are turning. A rubber-tipped bumper attached to a piece of strap iron fastened to the lay end helps the rotors turn if looms are mounted on concrete where there's little vibration.

But, the most important thing is—keep the loom clean.

Use 1 1/16-in. Cotton Rather Than Blends

Technical Editor:

What would be the result of mixing longer cotton (sav 1⅛ in.) with our regular 1-in. staple for the purpose of bolstering the strength of our 36s warp yarn? (9832)

Fiber-length frequency-array diagrams of the 1-in. and 1⅛-in. cotton will show the comparative length value of each type. Arrays of a 50-50 blend of each type will also show the length values of the blended staple.

A comparison of these values should give a fair indication of the expected increase in yarn strength. If fiber fineness and other factors are about the same, yarn strength is often found to be proportional to the mean fiber-length value of the cotton used.

Consideration will have to be given to roll settings if the cotton has a greater maximum fiber length than that of the 1-in. cotton now used.

Premium prices paid for the 1⅛-in. staple would increase the cost of the stock used for the 50-50 blend. A more-economical way to increase the yarn strength would be to use a 100% mix of 1 1/16-in. cotton.

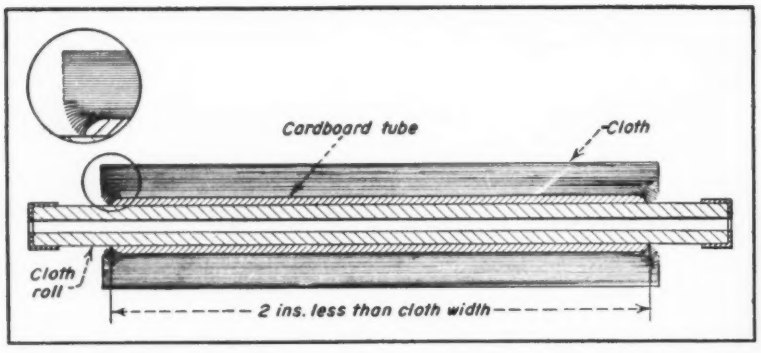
Normal 1 1/16-in. cotton should give a mean length of about 0.86 in. This length is close to that obtained in the 50-50 blend analyzed. The slight increase in maximum length would be less likely to cause trouble with your regular roll settings used for 1-in. cotton.

FIBER-FREQUENCY ARRAYS made from the 1-in. and 1⅛-in. cotton separately and a 50–50 blend of the two together show the following lengths:

Classified length	1 in.	1⅛ in.	50–50 Blended
Maximum length	1.250	1.437	1.437
Mean length	0.818	0.913	0.863
Length at the 25% array point	1.031	1.187	1.125
Length at the 50% array point	0.875	1.000	0.937
Length at the 75% array point	0.625	0.687	0.625

KINKS and SHORT-CUTS

Cloth-Roll Tubes Eliminate Loom-Made Creases



CARDBOARD TUBE is a press-fit on the cloth roll and is 2 ins. shorter than the over-all cloth width. A slot is cut lengthwise in the tube for the ¼-in. square wooden stick.

We were having a hard time trying to stop cloth-roll creases on our yarn-dyed taffetas. We tried loosening the cloth-roll clutch and several other things, but we failed to eliminate the creases.

Then we noticed that the creases were starting at the selvages. We tried several methods of drawing the selvage ends in the harnesses and reeds, but these efforts failed too.

One day we put a cardboard tube over a cloth roll and the trouble stopped. Now we use the tubes on all our looms where there is danger of creases.

The tube used is $\frac{7}{8}$ in. thick, has an outside diameter of $4\frac{7}{8}$ ins., and is 49 ins. long. The inside diameter is a snug fit over our cloth rolls. We cut the tubes 2 ins. shorter than the width of the woven cloth at the cloth roll, and we rounded the ends.

Since the tube is $\frac{7}{8}$ in. thick, we have room to cut a lengthwise slot in it for the ¼x¼-in. wooden sticks we use to hold the cloth on the rolls. The tubes are cut in our machine shop.

We press-fit the tubes on the cloth rolls at an equal distance from each end.

The tubes give us good results because the body of the cloth winds up on the cardboard tube and the selvages roll up on the cloth roll $\frac{7}{8}$ in. lower. This extra space keeps the selvages from building up to cause creases.

Now our cloth is free from creases, and some of our major troubles are over. *Jean-Louis Coyer, Montmagny, P. Q.*

How To Make Nubs On a Cotton Card

Here's how you can make nubs on a cotton card with your regular laps.

1. Remove every third flat and disconnect the flat drive.
2. Set the flats to 0.034.
3. Set the doffer to 0.034 or above.
4. Set the cylinder screen to 0.034.
5. Set the lickerin to 0.017.
6. Drop the mote knives.
7. Turn back the doffer comb.
8. Back off the front knife plate.
9. Set the feed plate to 0.022.

The setting of the back knife plate determines the size of the nubs. *J. B. Boyter, Dallas, N. C.*

How To Saw A Large Metal Sheet

TWO PARALLEL CUTS allow a large metal sheet to be cut with an ordinary hacksaw.

Large sheets of metal can be cut with an ordinary hacksaw if two parallel lines are sawed approximately 1 in. apart.

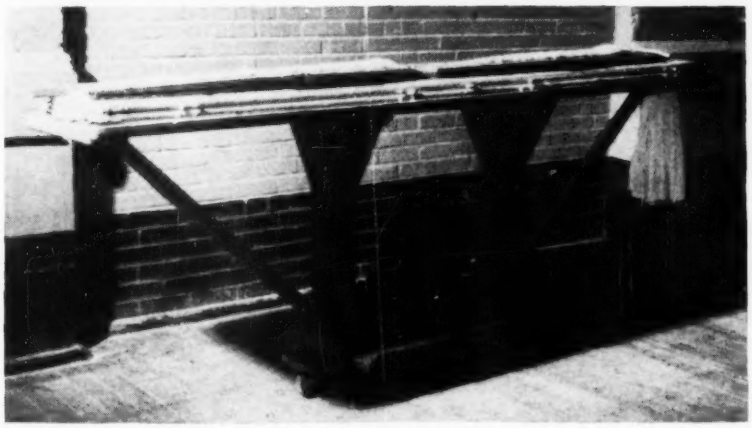
Continue the first cut until the hacksaw frame contacts the edge of the metal sheet. Then start the second cut until it, too, is stopped by the edge.

Roll up the tongue of metal between the two cuts to form a wide gap through which the hacksaw frame can pass. Progress across the sheet in a series of bites, 2 or 3 ins. long, until the sheet is completely cut.

Since the side of the hacksaw frame is thicker than the blade width, the saw must be tilted sideways in the gap; but it is still easy to cut a straight line.

To make the work easier, clamp the sheet to the edge of a bench or some other suitable support to allow space for the entire hacksaw to pass through the metal. It is also advisable to use a sheet-metal cutting blade in the hacksaw. *Clifford T. Bower, London, England*

One Man, With This Truck, Handles Harness Patterns



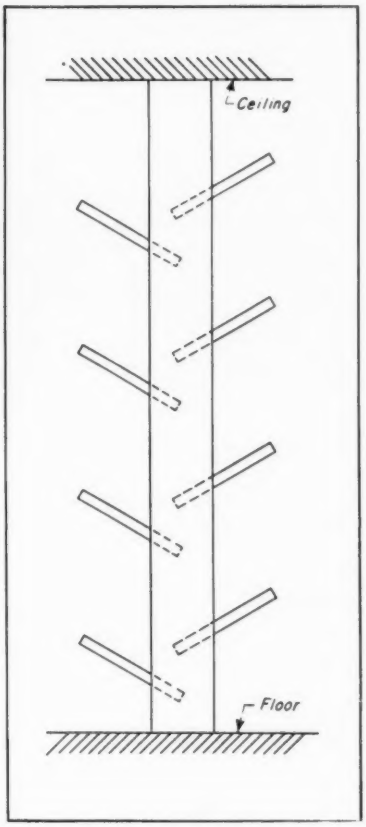
HARNESS PATTERNS up to 99 ins. long and 100 lbs. in weight can be handled by one man with this truck.

A harness pattern from one of our 90-in. or 99-in. looms weighs approximately 100 lbs.; and this weight, in addition to the length, makes it difficult for one man to handle the patterns. So we wanted to do something to lighten this work.

To facilitate handling these large patterns, a truck was built to haul them. It was built in such a way that it could be pushed in any alley between the looms and would take care of our longest patterns.

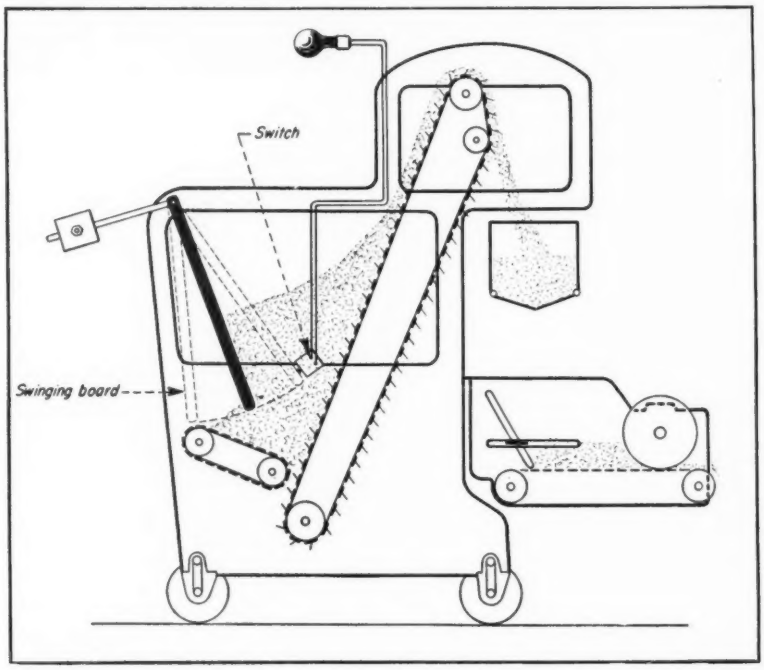
By using this truck, one man can handle the patterns satisfactorily in a manner that causes little or no damage to them or to him. *E. Faulkner, Pepperell, Ala.*

Double-Sided Rack Will Not Collapse



THIS RACK has equal storage facilities on both sides to prevent its collapse. To make a rack of this type, bore holes at a slight angle in sturdy upright timbers and insert short pieces of pipe in the holes. Secure the timbers at the top and the bottom to produce a rack capable of holding a substantial load. *W. F. Schaphorst, Newark, N. J.*

A Swing Board Improves Feed on Wool Cards



SWINGING BOARD in hopper helps to insure uniform pickup by the feed apron. The latticed board is counterbalanced by a weight as shown, and a limit switch at the edge of the hopper is actuated when stock is very low. The switch lights a red light to signal the operator to fill the hopper.

How To Use Color To Speed Paper Work

► Use red as a "stop" signal to indicate the need for clarification or additions, to point out low performance, and to get immediate attention.

► Use green as the "go-ahead" signal for good work, and as an "all-clear" to proceed.

► Don't underline. One psychologist says that underlining takes time, leads to eye strain, and is a poor memory device.

► To route material, use a different color for each department to improve speed and efficiency.

► To help keep your personal life in order, use red to circle important dates and appointments; and use green to note things to take home.

Try Old Temple Rolls To Stop Dropped Dobby Pegs

Dobby pegs falling out of a dobby pattern-chain bar can completely ruin a roll of cloth before a weaver finds the defect.

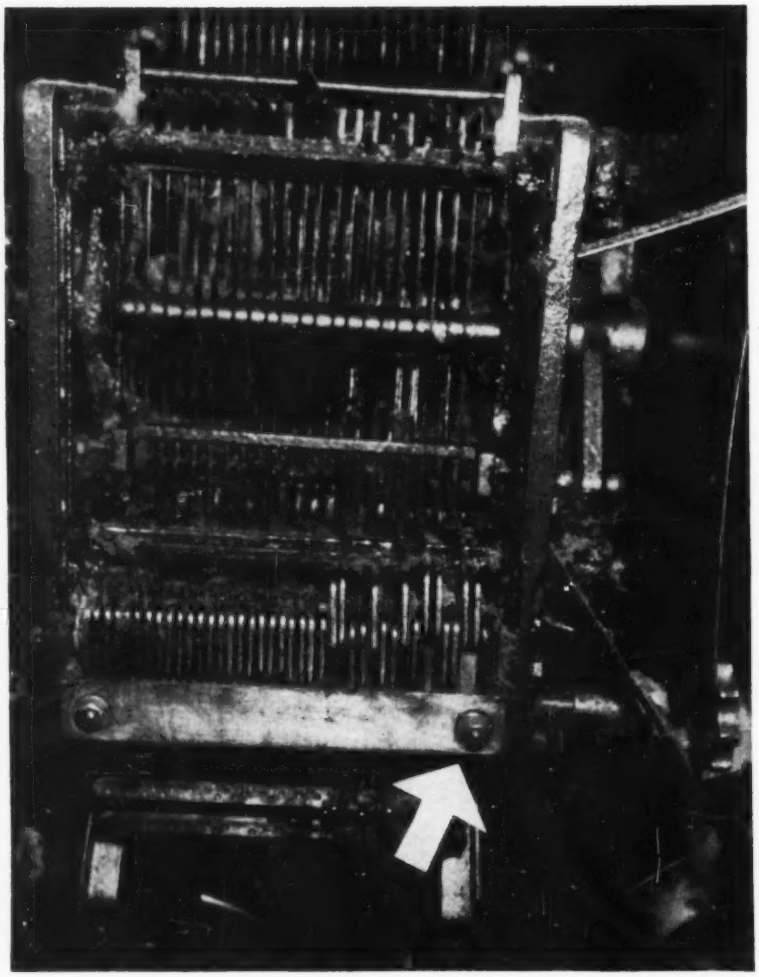
On plain weaves, we raise the cylinder index fingers so that pegs aren't needed. We strip the covering from rayon-type temple rolls and cut the temple-roll cores into sections approximately 1 in. long.

The sections are slipped over the wire pins in the index-finger rack to hold up the fingers necessary to make the plain weave. If tape selvages are run, the pegs are still used to raise and lower the index fingers for the selvages.

We sometimes take the pegs out of the body weave where the fingers are blocked up, but we often leave them in; the temple-roll cores work equally well each way.

Another great advantage in using the cores is that the dobby pegs do not touch and wear the bottoms of the index fingers.

This system cannot be used on dobby-type weaves and is limited to plain weaves only. *Waverly Mills, Inc., Laurinburg, N. C.*



TEMPLE-ROLL CORES are placed over the wire pins in the index-finger rack for plain weaves. Dobby wear and lost dobby pegs are eliminated.

$500 for Best Kink in 1955
$25 for Best Kink Each Month

In Addition to Space Payment on Acceptance

Send in your Kink now. There is always a contest going on.

We will polish up your writing and will have an artist make finished drawings. But send in plenty of details so that your Kink can be clearly explained. Be sure your sketch is clear and well labeled, but it need not be a polished job. Best of all, send us a good glossy photograph of it; we will pay you extra if you do and we can use it.

We like ideas for improving machines, new devices that a mill man can build, attachments or methods of merit—anything that will cut costs, improve quality, or help production.

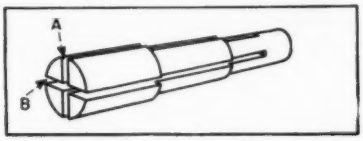
RULES OF CONTEST

1. No limit to number of entries.
2. New $25 prize contest every month, $500 prize contest for the year. Monthly contest confined to Kinks published that month, yearly to those published in calendar year 1955.
3. All Kinks paid for on acceptance; extra payment for photographs. Drawings need not be finished (clear detailed pencil sketches will do).
4. Previously published material not eligible for prizes.
5. Unless you advise to contrary, we assume we may sign your name to Kink when published.
6. Prize winners will be selected by readers, a different group each time. At least 200 will be asked to select preferred Kinks in each issue. Their votes will select the best Kink, and their decision will be final. In cases of ties, duplicate prizes will be awarded.

Send Kinks to:

KINKS CONTEST, TEXTILE WORLD
201 E. Coffee St., Greenville, S. C.

How To Hold a Small Drill In a Brace-and-Bit Chuck



THIS HOLDING TOOL, made of a rod turned down in steps and sawed with slits *A* and *B*, will effectively hold a small drill in a brace-and-bit chuck.

Usually it is difficult to hold a small drill in an ordinary brace-and-bit chuck. An effective way of holding even the smallest drill in such a chuck can be accomplished by the following method:

Saw two slits, A and *B*, at right angles to each other in a ⅜-in. rod that has been turned down in steps as shown in the illustration. Center the slits as nearly as possible. Insert the solid part of the rod into the chuck to the suitable holding point. Then insert the drill into the split end of the rod, and tighten the chuck as usual. *W. F. Schaphorst, Newark, N. J.*

How To Remove Broken Taps

A tap broken off below the surface of a hole can be removed by a simple method. Wrap asbestos string around a copper rod pointed at one end. Connect the top of the rod to a low-voltage electric supply, and place the pointed end of the rod on the grounded broken tap. When the current is turned on, the copper rod and the broken tap will become fused. The broken tap can then be easily screwed out. *W. E. Warner, Essex, England*

Best-Kink Award for October

Each month TEXTILE WORLD awards $25 to the submitter of the Kink judged by a panel of over 200 practical mill men as the best for that particular month. A new batch of Kinks appears each month, and a new group of readers acts as judges each month.

If you are asked to judge one of these days, be sure to help select the best Kink by sending back your answer in time for final tabulation. Closing date for judging is the last day of the month in which the Kink appears.

The best Kink for October, according to TEXTILE WORLD reader-judges, was:

"Unit Cuts Yarn Off Bobbins"

By A. Simpson, Grandmere, Que.

Mr. Simpson is being sent a check for $25 with the compliments of TEXTILE WORLD.

Better Control Reduces Lap and Sliver Variation

In one of our mills, we had a serious problem of variation in soft-twist, coarse filling yarn going into a fabric that was being napped. After withstanding a period of finisher complaints, we decided on process-progress quality control as a possible solution. Since going into this program, our weight variation and evenness of stock have improved considerably.

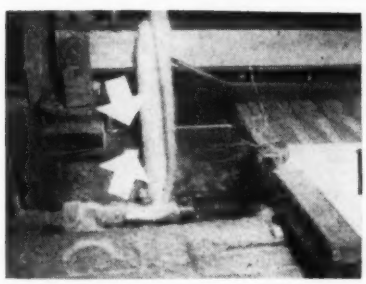
The charts used in the control program are rather simple, but they give us a quick picture of evenness.

1. **Picker-lap control chart.** This chart has space to plot laps from each of our eight pickers. When we get a lap that checks below standard, it is immediately taken to the supervisor in charge, who has the particular picker gone over. Then he sends the quality-control department another lap to check to see if the trouble has been corrected. Continuous plotting of this information shows if one particular machine is consistently producing uneven laps and indicates any progress being made.

2. **Card-sliver control chart.** This chart is for plotting sliver weights. Our procedure here is to check sliver weights being delivered from cards that were ground and set by grinders during the previous shifts. From these weights, which are plotted, we can readily tell what progress is being made. If we find a card producing stock that varies excessively from standard, we run a recheck immediately. If the recheck shows that this variance still exists, the grinder checks the card to correct the cause. This plotting is done on a shift-grinder basis to show if each shift is improving stock evenness. We also run a Uster linear-evenness test on stock being delivered from these cards.

3. **Drawing-sliver control chart.** This chart is for plotting sliver weights. Our procedure here is to check the sliver weight being delivered from each frame, alternating on a cycle basis between deliveries from each frame. These individual weighings are charted on our control chart for each period, and the charts reflect our sliver-weight variance between frames as well as from deliveries in their progression. We also run a Uster linear-evenness test periodically on drawing sliver. *S. B. King, Gaffney, S. C.*

Blanket Cloth Separates Filling and Eliminates Jerk-Backs



JERK-BACKS are prevented because the blanket cloth separates the filling in the several shuttles and keeps it from rolling together.

Jerk-backs used to be common in the cloth woven on our C&K W-3 and C-4 looms. On narrow styles of cloth, jerk-backs were especially bad.

We eliminated most of the jerk-backs by using a piece of blanket cloth on our loom lays. The cloth was bought originally for slasher-roll covers.

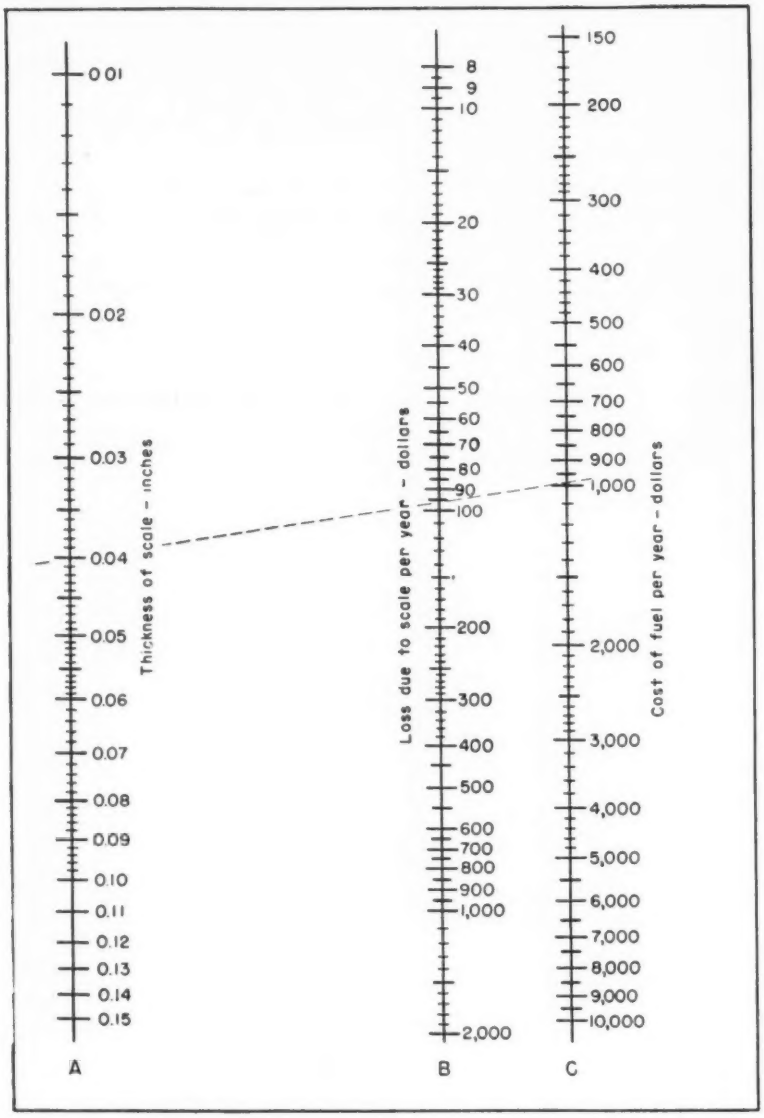
The blanket cloth is cut into strips 2 ins. wide. A 1-in. hole is slit in one end of a strip of the cloth lengthwise of the strip; and then the cloth is looped around the protector rod on the head end of the loom halfway between the temple and the shuttle box. The cloth is run over the handrail and fastened to the bolt head that holds the handrail shuttle guard in place.

When a loose end of filling touches the cloth, it sticks to it; thus, the blanket cloth separates the filling from the several shuttles and keeps it from rolling together. Consequently, we have few jerk-backs in the woven cloth.

When the blanket cloth gets dirty, we put on a clean piece so that the filling will be kept clean.

Only about 2 mins. are required to change the blanket cloth because no screws or bolts have to be loosened or removed.

Chart Tells Dollar Loss Caused by Boiler Scale



THIS CHART will tell you approximately the amount of money the scale in your boiler is costing you. To use the chart, run a straight line from the thickness of your boiler scale on line *A* to the cost of your fuel per year on column *C*. The point of intersection on column *B* will indicate the yearly loss caused by scale.

For example, if the scale thickness in your boiler averages 0.04 in. and you are spending $1,000 per year for fuel, the intersection on column *B* tells you you are spending $96 per year because of the scale. The figures in columns *B* and *C* can be increased when necessary by adding a zero to the numbers in each column. For example, if the annual cost of fuel is $10,000, the loss caused by the scale is $960 per year. *W. F. Schaphorst, Newark, N. J.*

Waste Holder Keeps Looping Room Tidy

METAL BOX on looping machine catches looper clips to keep room tidy and give operator more room to work.

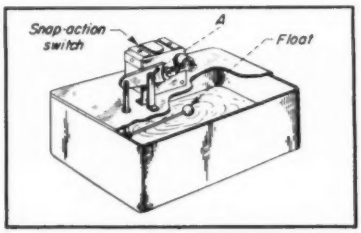
We keep our looping department tidy by providing each looping machine with a metal box to catch the looper clips as they fall from the knives.

The box is 15 ins. high and made from galvanized sheet. The box is supported under the looper knives and brush by a bracket that is screwed to the machine base.

The bracket slides in a slot on the back of the box so the box is easily removed from the contents to be emptied into a waste hamper.

The box is off the floor to give the looping operator more room to work, and it does not interfere with the looping operation.

Snap-Action Switch Keeps Liquid Level in Limits



LIQUID LEVEL is kept from being too high or too low by this device. Float, connecting levers, and cam combine with a snap-action switch to do the job. If point *A* on the cam moves too far up or down, the switch operates to turn on a warning light. Possible textile applications include size kettles, dye kettles, and boilers. *Micro-Tips*

Extra Water Screen Keeps Fire System Clean

While one screen is removed to be cleaned, put a second screen in to protect the intake of your fire-protection system and prevent foreign material from being drawn in. *Factory Mutual Record*

How To Improve Color Value In Naphthol Dyeings

If more than one salt rinse is given after naphtholating, add 7 oz. of caustic soda per 100 gals. of water to prevent hydrolysis. You'll find that color value will be much better. *Calco Dyelines*

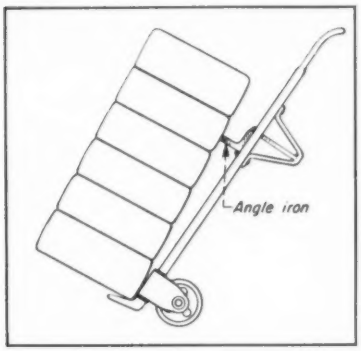
upatree?

Many a textile manufacturer has found himself up-a-tree when it comes to solving lubrication problems that are hampering his entire operation. Many a textile manufacturer has been rescued from this bothersome situation by the expert services of a Cities Service Lubrication Engineer coupled with the complete line of Cities Service lubricants. Why not let a Cities Service Lubrication Engineer make a quick, accurate lubrication survey for you? It will cost you nothing and can save you many dollars in operating costs. Call your nearest Cities Service Office or write Cities Service Oil Company, Sixty Wall Tower, New York 5, N.Y.

CITIES SERVICE

QUALITY PETROLEUM PRODUCTS

How To Prevent Opening-Room Fires



IMPROVED HAND TRUCK has a piece of angle iron welded at the top of the bed. When the truck is set down, ties can be removed easily from the bale.

The occasional opening-room fire is one of the most disagreeable occurrences in a cotton mill. But a little extra care in opening bales can prevent most of the fires.

All you have to do is remove the ties at least 10 ft. from where the cotton is laid down. An improved hand truck helps the procedure. Here's how:

Bring the bale to be opened to about 10 ft. from where it is to be laid down. Keep the bale on the truck, and use a truck with a piece of angle iron welded to the upper part as shown in the sketch.

Cut the ties and remove all metal while the bale is on the truck. The piece of angle iron will keep the bale off the truck bed and make this job easier than ever before.

Truck the bale the remaining 10 ft., position the truck, and grab the bagging to roll the cotton onto the floor.

There's no chance for metal to be mixed with the cotton, because all metal was removed 10 ft. away.

Several mills that have been following this practice haven't had an opening-room or picker-room fire for years. *J. R. Wikle, Sr., Charlotte, N. C.*

Cabinet Protects Rolls

A CABINET for storing extra rolls is divided by wooden separators to keep different sizes of rolls from getting mixed. The separators also prevent the rolls from damaging each other.

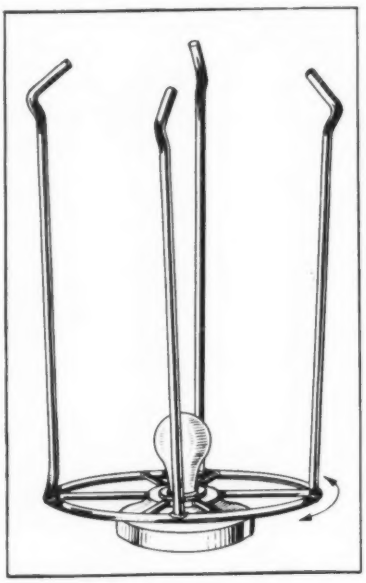
Through-Lighting Device Aids Garment Inspection

High-grade knitted garments in our mill are examined for faults immediately after knitting. As the garments must be turned before seaming, we combined the operations and made a device to assist the two jobs.

The device consists of four stainless-steel arms that are welded at equal distances to a 12-in.-dia. ring. The arms are bent to the shape of the garments, and the tips are bent so the garment can be easily turned inside out as it is removed from the frame.

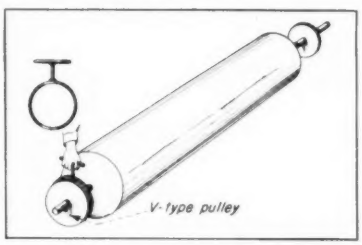
The ring is spoked, and its bushing revolves on a base to allow both sides of the garment to be inspected from one position.

A 60-w. lamp is screwed in the base to illuminate the garment as it is inspected. Because the light shines through the fabric, faults can more readily be noticed, and mendable faults can be repaired more quickly while the garments are on the frame. *Dan Singer, Newton, Mass.*



LIGHTED FRAME makes garment inspection, mending, and turning easier. Arms are made of stainless steel, and the frame can rotate.

Hoop-Handle Tool Lifts V-Belt-Driven Rolls



V-BELT-DRIVEN ROLLS can be lifted easily and safely with this hoop-handle tool made from ½-in. round steel stock.

We had quite a bit of trouble taking out our card lickerins. Bruised knuckles and short tempers were in abundance when we had this job to do.

Recently the situation got worse because we put V-belt pulleys on our lickerins. (Our lickerins are driven from a special idler pulley, incidentally, and not from the cylinder.)

Now we use a metal hoop with a handle on it to lift the lickerins by the V-belt pulley. The hoop diameter is a little greater than the pulley diameter (an 8-in. hoop in our case). The hoop is made from ½-in.-dia. cold rolled steel. The handle is welded to the hoop.

Lifting lickerins is an easy job now. *D. Thompson and H. Huntsman, Sherman, Tex.*

Carbon-Paper Sandwich Gives Quick Check on Pad Nips

Sometimes it is necessary to get a quick check on how evenly a pad nip is squeezing out liquor. To do this, insert a piece of soft carbon paper between two pieces of white paper. Cut three strips, and place one strip near each end and near the center of the nip. Run the paper through, and examine the carbon-paper impressions. Any variation in width of the impression indicates a variation in pressure; the greater the width of the impression, the higher the pressure. *Calco Dyelines*

Du Pont announces "SEVRON"* dyes for "ORLON"† that give good light and wet fastness

The new Du Pont "SEVRON" dyes have been developed *specifically* for "ORLON." They represent a major advance in dyeing this acrylic fiber for they have a good fastness to light and washing. They give excellent build-up in heavy shades.

Because "SEVRON" dyes have a direct affinity for "ORLON" Type 42 fiber, you can apply them directly to stock, top, yarn and piece goods — *without* using the copper method. And "SEVRON" dyes give level dyeing in the entire range of bright shades . . . can be duplicated readily from one run to another.

Try these new dyes the next time you are dyeing "ORLON":

"SEVRON" Yellow L	**"SEVRON" Blue B**
"SEVRON" Yellow R	**"SEVRON" Blue 2G**
"SEVRON" Brilliant Red 4G	**"SEVRON" Green B**

You can easily obtain technical assistance in any problems in dyeing the new fibers or blends of the old and new. Just write E. I. du Pont de Nemours & Co. (Inc.), Dyes and Chemicals Division, Wilmington 98, Delaware.

**Trade-mark*
†"ORLON" is Du Pont's trade-mark for its acrylic fiber.

Du Pont Dyes

DU PONT
REG. U.S. PAT. OFF.

BETTER THINGS FOR BETTER LIVING . . . THROUGH CHEMISTRY

Cardboard Marker Identifies and Stops Mixed Filling

CARD at batteryhands' finger tips shows the correct filling for each loom and stops mixed filling.

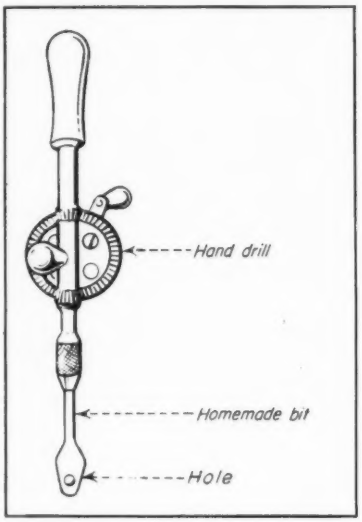
We usually run over 20 types of filling in our weave room. We run filament-rayon, staple-rayon, and cotton filling on looms side by side. No matter how careful we were, we used to have mixed filling occasionally. Mixing didn't occur often: it was just enough to keep us disturbed about the possibility.

We've completely eliminated any danger of mixed filling by marking each battery with the type of filling used. The marker is a plain cardboard tag fastened to the inside of the hopper stand with masking tape. The tape is fastened to the radius of the hopper stand.

The cardboard is marked with pen and ink and gives the style number of the cloth, the filling number, and identifying marks such as tint color.

It isn't much trouble to change the card at style changes, and mixed filling isn't made. *Waverly Mills, Inc., Laurinburg, N. C.*

We Use a Bit and Hand Drill For Broken Harness Hooks



HOMEMADE BIT in hand drill easily and quickly drives up new harness hooks in harness frames at the under side of the loom.

When a loomfixer has to replace a broken loom-harness hook on the bottom side of the harness frame, he has to crawl under the loom and work in such a cramped position that it's hard to put the hook in straight.

We've made a little tool that makes the job easy.

A homemade drill bit is made from a 2-in. section of $\frac{1}{4}$-in.-dia. steel rod. One end of the rod is flattened with a hammer, and a hole $\frac{3}{32}$ in. larger than the harness hooks is drilled near the end of the flattened section.

The round end of the rod is placed in an ordinary hand drill. The new harness hook is started in the harness frame by hand, and then the hole in the homemade drill bit is slipped over the hook. The hand drill runs the hook up quickly, easily, and straight in the frame. *Charles S. Bicksler, Lancaster, Pa.*

How a Steel Ball Helps To Make Better Hosiery

We made a clearer join between the rib cuff and the leg of our socks by providing tension on the loops with a steel ball.

The steel ball is a 1-in. ball bearing. As the knitter places the point ring on the needles, she gives the cuff a twist with her right hand and places the weight on the cuff on the cylinder needles.

The twist in the cuff keeps the weight in position, and the point ring is removed. The machine is run, and the weight is removed when the sock is finished.

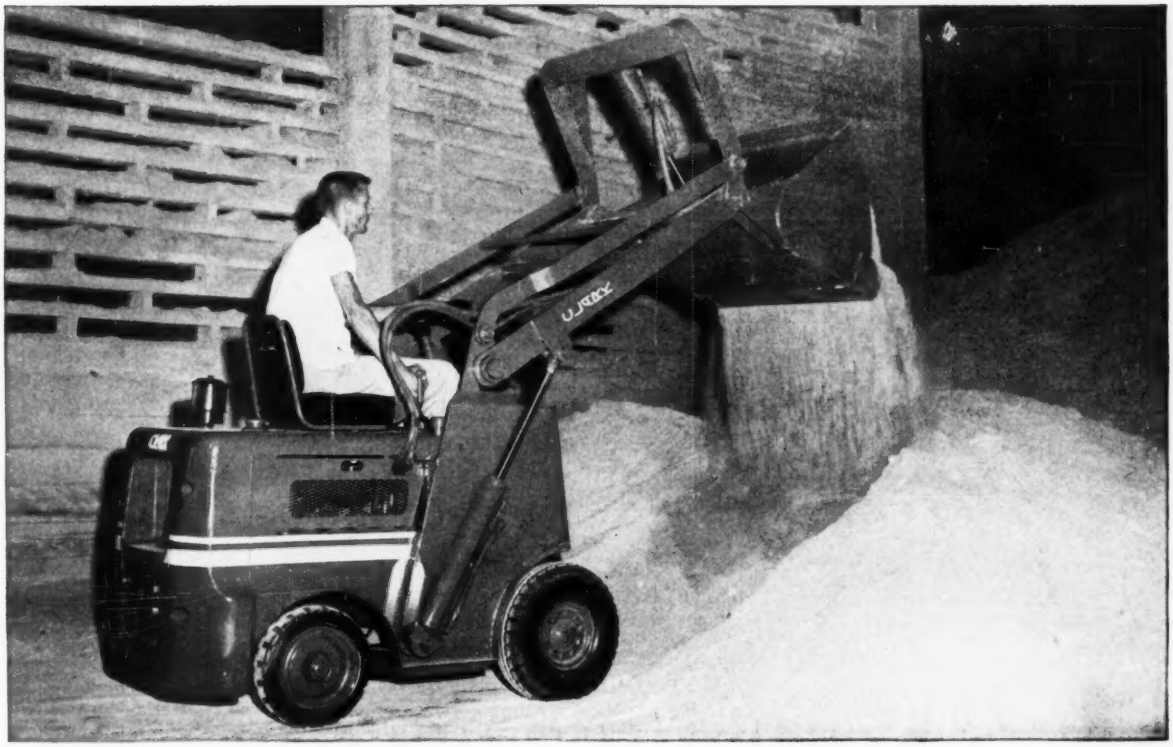
ONE-INCH STEEL BALL, held in place by a twist in the rib cuff, provides tension on the fabric to keep the loops under better control.

Yarn Trucks Save Space

Very often, cases of yarn are taken into the knitting room, opened near the machines, and left there to supply the yarn needs of the knitters. Because of their oblong shapes, the crates take up too much floor space and sometimes necessitate extra work for the operator, who must make several trips to the case before he has all the yarn that he needs to fill the knitting head.

To eliminate this condition, we constructed small boxes (3x2x2 ft.) and nailed casters to the bottoms to make easily movable trucks. Now, a shipping-department worker opens the yarn cases, places the contents into the trucks, and wheels the trucks to the knitting area. The trucks can be placed next to a machine requiring yarn.

This system has saved floor space, decreased operator motion, and prevented accidents caused by nails and rough plank edges on the original yarn crates. *Leonard Mauer, Ft. George Meade, Md.*



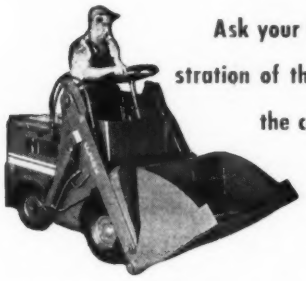
Fits places and budgets that no other loader can!..

Clark's new BULK LOADER

This little end-loader will do many of the things that bigger, more expensive machines can do—*plus a lot of things they can't do!* The Clark BULK LOADER has the shortest turning radius of any machine on the market—5'10". Within its capacity (11 cu. ft., 1200 lbs.), it's unbeatable for handling loosely packed material in cramped quarters—boxcars, narrow aisles, close approaches to hoppers. There's plenty of power, plenty of traction for light shoveling, with speeds up to 8½ mph in both directions. Fully loaded, the BULK LOADER will climb a 14% grade.

Bucket action is also outstanding. Low-level independent tilt-back guarantees full bucket loads every time, permits carrying in lowered position without spillage. The 60 degree dumping action has a full 76 in. clearance under the hinge, 47 in. under the lip.

Compare the performance of this new BULK LOADER against competitive machines. And remember that you'll have no service problems with this new Clark machine—parts and components are mainly interchangeable with the standard Yardlift-20. Service is immediately available from your local Clark dealer, listed in the Yellow Pages under "Trucks, Industrial."



Ask your Clark dealer for a demonstration of the new Bulk Loader. Send the coupon and we'll make the arrangements.

CLARK EQUIPMENT

Industrial Truck Division
Battle Creek 27, Michigan

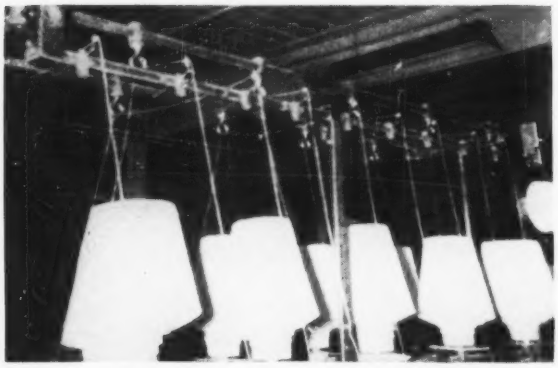
☐ Send details on the BULK LOADER
☐ Contact me for demonstration

Name_____
Firm_____
Address_____
City_____

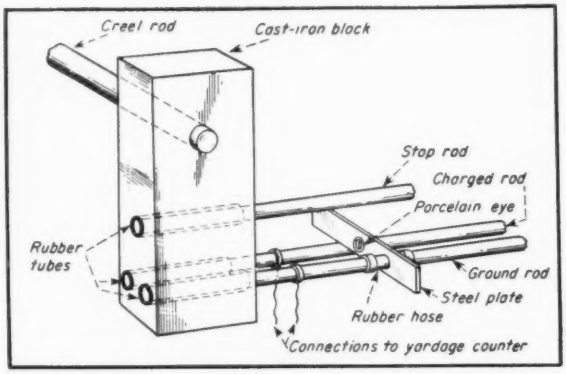
For more information, write direct or use Reader Service post card.

KINKS AND SHORT-CUTS

Reel Stop Motion Prevents Short Skeins



STOP-MOTION DROPPERS are arranged on an insulated bar opposite the yarn package. Reel stops when dropper falls on the charged rod.



CAST-IRON BLOCKS at each end of the frame support the three ¼-in. rods. The rods are insulated from the blocks with rubber tubing.

We had trouble with short ends on our Fidelity reels when an end broke or a cone ran out. The machine would keep running, and often it would run for some time before the operator noticed the broken end.

To solve this problem, we made a stop motion from two cast-iron blocks 4 ins. long and 1½ ins. wide and three pieces of ¼-in. cold-rolled steel 4 ft. long.

We drilled a hole in the cast-iron blocks 1 in. from the top of the block and three holes at the bottom of the block. The top holes are to fix the stop motion to the machine. Two of the bottom holes are ½ in. apart, and the third hole is 1 in. above these.

A steel strip 1½ ins. long is used for each drop eye. A hole is drilled at the bottom of the strip to slide on a ¼-in. steel rod, and a hole at the top of the strip receives eyes from an old twister frame.

Allen-head screws are used in the top of the steel strips to adjust the eyes to balance them on the steel rod. The drop eyes are threaded on a ¼-in. rod, and small pieces of rubber hose keep the drop eyes in position.

The second rod keeps the drop eyes from lifting too high to get out of balance. This rod is insulated from the cast-iron blocks with a piece of rubber hose.

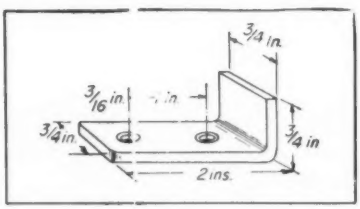
The third rod is the charged rod. An insulated wire connects this rod to the 25-v. relay on the yardage clock.

When a drop eye falls because of a broken or run-out end, it strikes the charged rod and stops the machine.

The steel rods are supported on a brace made from 1-in. angle iron to prevent vibration affecting the drop wires. The rods are insulated from the support with a 3x1½-in. piece of Bakelite.

Our quality has improved because we never have a short skein, and the job is made easier for our operators because they do not have to be constantly looking for broken ends. *K. K. Kiser, Whitnel, N. C.*

Hold Reeds Permanently With a Hidden Fastener



REED STABILIZER is made from a short section of strap iron. The iron is drilled, bent, and welded on the bent end for reinforcement. Then it's screwed to the bottom of the handrail to hold the reed firmly in place.

We have always had a lot of trouble with reeds slipping on our Draper looms with side-fork filling stop motions. The reeds slip in front of the fork prongs and keep the fork from stopping the looms at filling breaks.

Some loomfixers drive nails in the lay to hold the reed in place. This practice sometimes splits the lay; and, at its best, it is only makeshift work.

We have a new way to hold reeds positively in one position. We make a small L-shaped plate from a piece of strap iron. The strap iron is 2¾ ins. long, ¾ in. wide, and ⅛ in. thick. Two ⅜-in. holes are bored in the iron and are countersunk for ⅝-in. No. 7 flathead wood screws. One end of the iron is bent for ¾ in. to form a right angle. The angle is formed on the countersunk side.

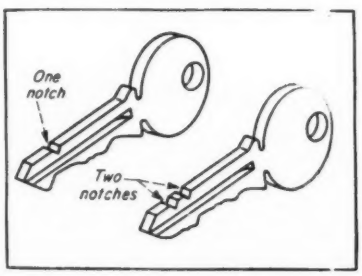
The outside surface of the ¾-in. length is built up with welding material to form a reinforced surface.

The reed is placed in its correct position. Then the fabricated metal is positioned underneath the handrail with the reinforced surface against the reed. Then the position of the metal is marked on the handrail with a pencil.

The handrail is removed from the loom, and holes are bored for the metal. Two wood screws are used to fasten the metal to the handrail. After the screws are put in, the handrail is replaced on the loom.

When this method is used, reeds stay in place and the job is permanent. *Arnold Bolding, Alabama City, Ala.*

How To Identify Any Key In the Dark



KEYS with a certain number of notches filed in their backs can be easily identified

To identify keys, file notches in the back of the keys as shown in the accompanying sketch. The number of notches identifies the key. Thus, file one notch in the most important key, two notches in the key of second importance, and so forth. Since it is easy to remember which key is most important, you will have no more key-identification trouble. *W. F. Schaphorst, Newark, N. J.*

Spinning Aid Increases Yarn Strength up to 30%

On woolen systems, treat your fibers with Syton and get faster, easier carding. Cut down breakage, reduce fly and waste. Obtain more uniform, condensed rovings, spin at higher speeds. Get all these advantages *plus* an increase in yarn tensile strength of up to 30%.

On worsted systems, use Syton to increase efficiency at various stages of Bradford, French and modified spinning systems. Get higher tensile strength, higher spin limits, fewer ends down, less lap waste, increased interfiber drag.

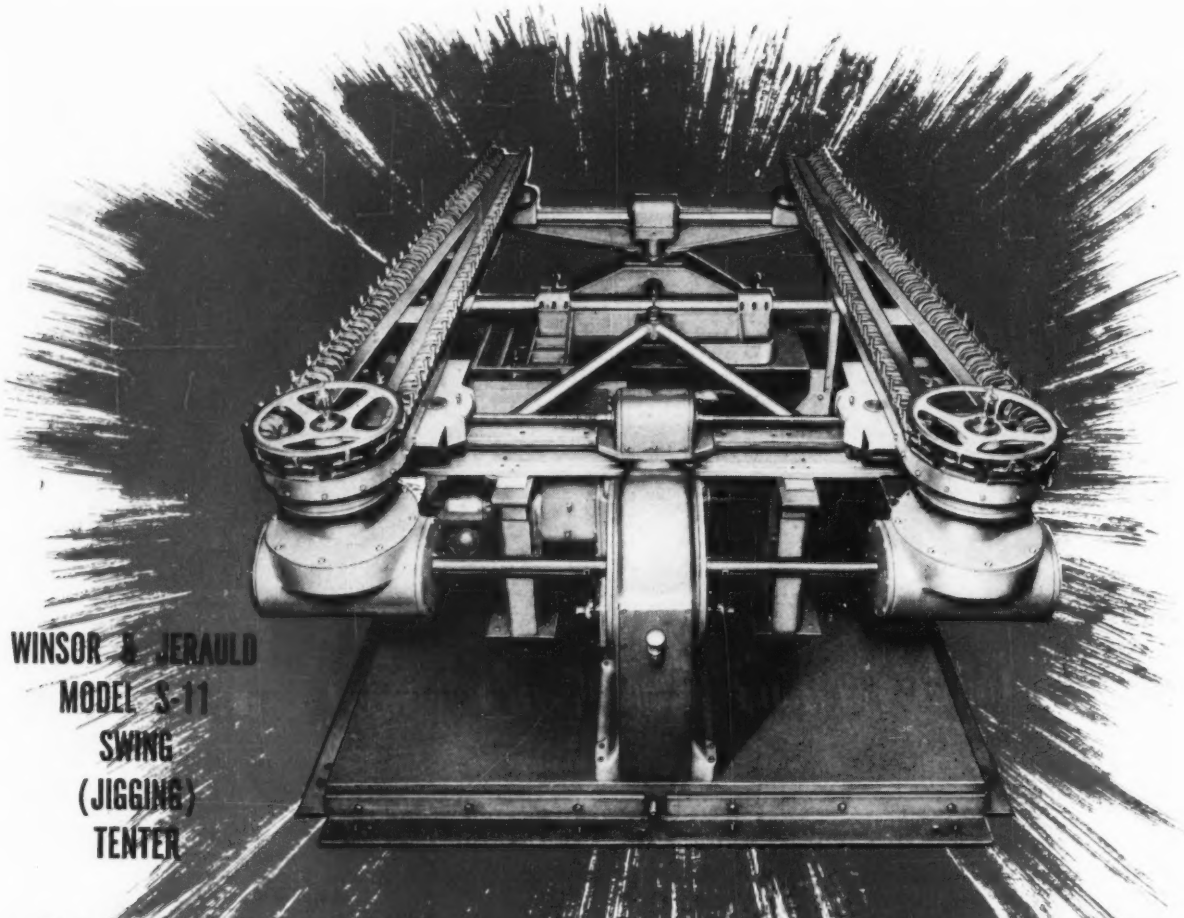
As a finishing agent, Syton produces a dry, crisp hand like that of worsteds when used on synthetics. It also can be used to give special effects on nylon marquisettes, rayon lining, taffeta, and many other fabrics.

Syton: Reg. U. S. Pat. Off.

FOR MORE INFORMATION write for booklet, "Profitable Spinning of Wool and Wool Blends with Syton," to Inorganic Chemicals Division, MONSANTO CHEMICAL COMPANY, 710 North 12th Street, St. Louis 1, Missouri.

MONSANTO
CHEMICALS – PLASTICS

SERVING INDUSTRY... WHICH SERVES MANKIND



WINSOR & JERAULD MODEL S-11 SWING (JIGGING) TENTER

As a companion to its famous T-4 High Speed Tenter, Winsor and Jerauld is pleased to present its Swing Tenter Frame S-11, a Swing Tenter which has no equal.

The head end of the Tenter is built on a rigid steel bed plate to assure strength and vibrationless operation. Everything in the main driving assembly is mounted on Timken roller bearings to reduce frictional loss. Adequate provisions for heat expansion has been provided for at all required points.

The number of oscillations per minute, the adjustment of the length of the swing action, the operation of the power opening and closing of the frame itself and the main drive of the tender are all independent of each other.

Extreme smoothness of the swing motion has been accomplished through an entirely new design action which is easily adjusted for length of stroke. The swing action has the additional feature in that the fulcrum motion is at the edge of the cloth rather than at the center of the rails, as was previously the case. This means, in effect, that the cloth will be held at even tension and width through the swing.

When the need arise, the Swing Tenter S-11 may be operated as a straight tenter.

May we be of service to you in your tentering problems? Our staff of experts in cloth finishing machinery are at your service at no obligation to you.

Winsor & Jerauld
MANUFACTURING COMPANY, INC.
Main Office
1363 Eddy Street
Providence 5, R. I.
Southern Division
213 Atlantic Avenue
Charleston, So. Carolina

Experts in Cloth Finishing Machinery

Free Technical Information

Reader Service

MILL EXECUTIVES may obtain free for the asking . . .

. . . **OUTSTANDING TRADE LITERATURE** reviewed on the next and following pages

. . . **FURTHER INFORMATION** on
New Textile Equipment
New Dyes & Chemicals
New Useful Accessories
Editorial Articles
and the Advertisements

WRITE ON THESE CARDS →

. . . to get more information on anything published in the editorial or advertising pages of this issue. If your inquiry concerns equipment or supplies, name the specific equipment or supplies involved. If your inquiry concerns anything other than equipment or supplies, you must state specifically the information you want.

. . . to send a Kink, a letter for Round Table, or a news note.

. . to comment on anything appearing in this issue.

. . . to query the editors about any manuscripts you might wish to submit to them.

. . . to send an inquiry to the Questions & Answers department.

●

Cards require no postage . . . but be sure to give your name, title, mill connection, and address.

●

CIRCLE THE NUMBERS ON THIS CARD →

. . . to request copies of trade literature described on the next and following pages or to get more information on New Textile Equipment, New Dyes & Chemicals, and New Useful Accessories described in this issue.

Dear Editor: **This card expires February 28, 1955**

Please send me additional information on the following:

PAGE	SUBJECT	PAGE	SUBJECT
.....	.....	.....	.....
.....	.....	.....	.....
.....	.....	.....	.....
.....	.....	.....	.....
.....	.....	.....	.....
.....	.....	.....	.....

Please print or write legibly

Name..... Title.....

Mill .....

Street .....

City..... State.....

TEXTILE WORLD, A McGraw-Hill Publication, New York 36, N. Y. DECEMBER, 1954

Please send me the following: **This card expires February 28, 1955**

TRADE LITERATURE Number: F-1 F-2 F-3 F-4 F-5 F-6 F-7 F-8 F-9 F-10 F-11 F-12 F-13 F-14 F-15 F-16 F-17 F-18 F-19 F-20 F-21 F-22 F-23 F-24 F-25 F-26 F-27 F-28 F-29 F-30 F-31 F-32 F-33 F-34 F-35 F-36 F-37 F-38 F-39 F-40 F-41 F-42 F-43 F-44 F-45 F-46 F-47 F-48 F-49 F-50

TEXTILE EQUIPMENT NEWS Number: T-1 T-2 T-3 T-4 T-5 T-6 T-7 T-8 T-9 T-10 T-11 T-12 T-13 T-14 T-15 T-16 T-17 T-18 T-19 T-20 T-21 T-22 T-23 T-24 T-25 T-26 T-27 T-28 T-29 T-30 T-31 T-32 T-33 T-34 T-35 T-36 T-37 T-38 T-39 T-40 T-41 T-42 T-43 T-44 T-45 T-46 T-47 T-48 T-49 T-50 T-51 T-52 T-53 T-54 T-55 T-56 T-57 T-58 T-59 T-60 T-61 T-62 T-63 T-64 T-65 T-66 T-67 T-68 T-69 T-70 T-71 T-72 T-73 T-74 T-75 T-76 T-77 T-78 T-79 T-80

DYES AND CHEMICALS Number: D-1 D-2 D-3 D-4 D-5 D-6 D-7 D-8 D-9 D-10 D-11 D-12 D-13 D-14 D-15 D-16 D-17 D-18 D-19 D-20 D-21 D-22 D-23 D-24

Please print or write legibly

Name..... Title.....

Mill .....

Street .....

City..... State.....

TEXTILE WORLD, A McGraw-Hill Publication, New York 36, N. Y. DECEMBER, 1954

Outstanding TRADE LITERATURE *Free for the Asking*

NO REPEATS . . . Listed here for December are current bulletins reviewed by the editors of TEXTILE WORLD. To get the ones you need, circle the number on the Reader-Service card, as described on the preceding page.

TEXTILE MACHINERY

Staple cutters—With guide pins and tension rolls. Vari-speed motor or feed permits instant changes of staple lengths. Cuts staple from 4 ins. down to flock. Index 209. Taylor-Stiles & Co. (F-1)

Preopener and cleaner—For use between feed hoppers and feed aprons delivering to regular cleaning lines. Occupies 3 ft., 2 ins. between hoppers and side frame of apron. Centrif-Air Machine Co., Inc. (F-2)

Microjet coater—Coating is applied to material. Excess removed by jet of high-velocity air, leaving a smooth metered film on the web. Bulletin 1010. John Waldron Corp. (F-3)

Precarder—For synthetics, wool, and blends. Produces 2,000 to 5,000 lbs. per hr. Made in three sizes—42, 48, and 60 ins. William-Schofield Co., Inc. (F-4)

Roving-bobbin cleaner—For cleaning cotton, synthetics, or wool roving waste from card-room bobbins. At 20 strokes per min., 60 bobbins per min. are cleaned. Terrell Machine Co. (F-5)

Warp-sizer—With air-operated carrier and delivery rolls. Cylinder condensate removed through syphon tubes. Cocker Machine & Foundry Co. (F-6)

High-speed pin drawer—For all combing passages and first few drawing operations. Built with two heads. Can size 15x36 ins. Pinning field is 7⅛ ins. long. Stellite American Corp. (F-7)

Multipurpose calender—For resin finishes, friction, Schreiner, embossing. Pneumatic or hydraulic pressures up to 75 tons; 44- to 72-in. widths. Speeds up to 45 yds. per min. Bulletin T-101. McKiernan-Terry Corp. (F-8)

Center wind—For batching cloth from delivery end of machine such as rotary press, shear, or tenter. Synchronizes with machine speed. Folder 4. David Gessner Co. (F-9)

Single-layer tenter frame—Pin to clip change-over in a few seconds. Widths from 20 ins. to 240 ins. Speed range 1 to 200 yds. per min. Robert Reiner, Inc. (F-10)

TEXTILE AUXILIARY EQUIPMENT

Tension analyzer—Records tension variations from 4 gms. to 400 gms. at high speed. Maximum sensitivity of 0.1 gr. per millimeter. Catalog ED-11405. Brush Electronics Co. (F-11)

Cotton colorimeter—Detects color drift in crop and standards. Detects color differences within a single grade. Provides permanent color benchmark. Macbeth Sales Corp. (F-12)

Traveling cleaner—Rides on two-rail track attached to frames. Multioutlet air distributors. Underframe cleaner and floor sweeper attachments. Bulletin 1253. Parks-Cramer Co. (F-13)

Air conditioner—Heats in winter, cools by refrigeration in summer. Cleans air all year round. Removes excess moisture on hot days. Adds moisture on cold days. Bulletin 4ZCP-79-300. Servel, Inc. (F-14)

Doff meters—For loom application Measure yardage and stop loom to eliminate overruns. Driven from sand roll gear or intermedite gear. Bulletin 501. Durant Mfg. Co. (F-15)

Hydraulics—For textile machinery. Running speed infinitely variable, tension maintained automatically, creep speed selective, automatic overload protection. Bulletin 54-66. Vickers, Inc. (F-16)

Textile testers—For tensile strength and elongation, twist determination,

Postage Will be Paid by Addressee

No Postage Stamp Necessary If Mailed in the United States

BUSINESS REPLY CARD
FIRST CLASS PERMIT No. 64 (Sec. 34.9 P. L. & R.) NEW YORK, N. Y.

TEXTILE WORLD
330 W. 42nd Street
New York 36, N. Y.

McGraw-Hill Publishing Co., Inc.

Postage Will be Paid by Addressee

No Postage Stamp Necessary If Mailed in the United States

BUSINESS REPLY CARD
FIRST CLASS PERMIT No. 64 (Sec. 34.9 P. L. & R.) NEW YORK, N. Y.

TEXTILE WORLD
330 W. 42nd Street
New York 36, N. Y.

McGraw-Hill Publishing Co., Inc.

READER SERVICE *(Continued)*

and ball-burst tests. The inclined-plane principle is explained. Catalog 52. Scott Testers, Inc. **(F-17)**

All-electric drive—For slashing. Automatic rheostat control of speed; adjusts rates of starting, stopping, acceleration, deceleration, and speed changes. Charles B. Johnson Machine Works. **(F-18)**

Textile motors—Lint and textile dusts pass through the motor without clogging. Two fans on the rotor bring cool air through both ends. Bulletin 14-193. Century Electric Co. **(F-19)**

Loom motors—Roller bearings at shaft end. Ball bearings at front withstand shock resulting from rapidly fluctuating loads. Vinyl-insulated wire throughout. Bulletin PB6000-5-754. Elliott Co. **(F-20)**

SUPPLIES

Textile leathers—Endless checkstraps, straight checkstraps, box-plate leathers, lug straps, harness straps, rub aprons, condenser tapes, leather belting. Graton & Knight Co. **(F-21)**

Harness—For drawing and weaving. Adjusted to exact distance by turning screw. Every heddle is a repair heddle. Heddles can be removed at any place. Steel Heddle Mfg. Co. **(F-22)**

Quill boxes—Large capacity. Withstand temperatures to 250° F. Will not rust, rot, corrode, warp, or set. Made of polyester resin. Gladwin Plastics. **(F-23)**

Spinning emulsion—For wool and synthetics blends. Gives better drafting control. Steady production with fewer breaks. Increases inter-fiber drag. Produces stronger yarn. Monsanto Chemical Co. **(F-24)**

Floor waxes—Made from selected grades of carnauba wax. Spreads on all types of floor. Water resistant. High scuff resistance and wear. C. B. Dolge Co. **(F-25)**

Beams—For broad looms, narrow-fabric looms. Seamless-steel tubing. Welded stud constructions. Easy interchangeability. Bulletin 54-S. Milton Machine Works, Inc. **(F-26)**

Fugitive tints—For natural and synthetic fibers, blends of wool, nylon, Orlon, and Dacron. One to three parts of water is used per part of tint. Charlotte Chemical Laboratories, Inc. **(F-27)**

Formic acid—Miscible with water, alcohol, glycerol, and ether. Boils at 100.8° C. Supplied in strengths of 85 and 90%. Heyden Chemical Corp. **(F-28)**

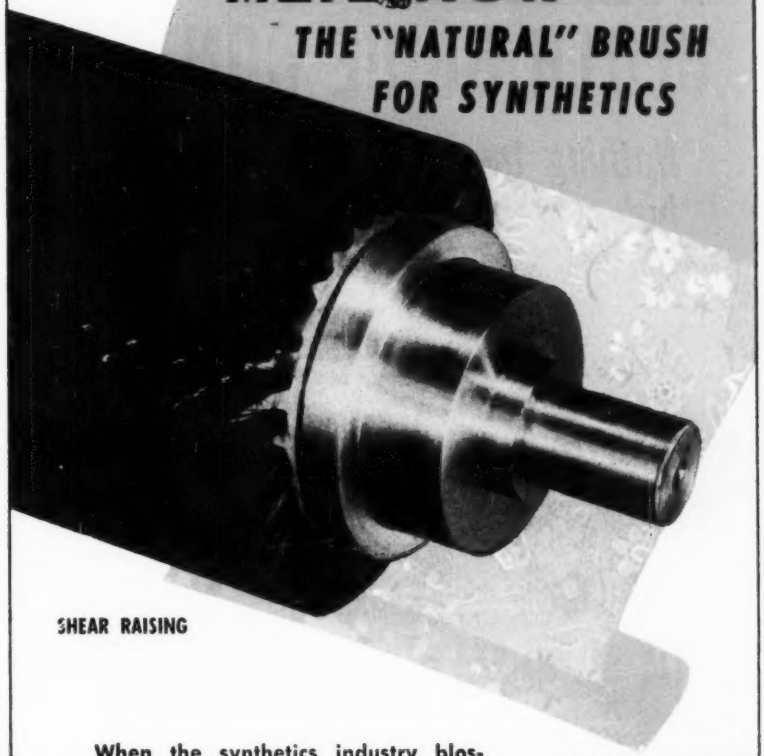
Hydrogen peroxide—For bleaching wool raw stock, yarns, and fabrics. Gives stable whiteness without damaging fiber. Time is 4 to 16 hrs. with 0.3 to 1.2%. E. I. du Pont de Nemours & Co., Inc. **(F-29)**

Concentrated sodium hydrosulfite—Vatrolite is for vat dyeing and color reduction. Effective for removing rust stains. Strips color on cotton, silk, linen, and rayon. Royce Chemical Co. **(F-30)**

CONTINUED ON NEXT PAGE

METLKOR®

THE "NATURAL" BRUSH FOR SYNTHETICS

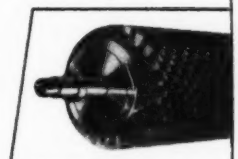


SHEAR RAISING

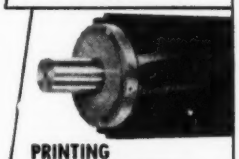
When the synthetics industry blossomed forth some 25 years ago, M. W. Jenkins' Sons brought their considerable experience to the industry. Having designed brushes for textiles since 1877 and keeping abreast of technological advances, M. W. Jenkins' Sons then and since developed a series of brushes specifically designed to meet the new and challenging problems presented.

As with all its products, whether for the textile or other industries, Jenkins' METLKOR brushes for synthetics are the best available. They will not sag, split, crack or get out of alignment, are uniformly tufted, filled, trimmed and spaced to give uniform performance. Set in flat wire, they are wound about a permanent metal core which can be rebristled with the same or any other desired bristle.

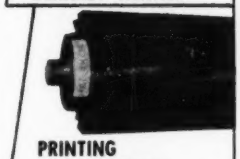
For any problem requiring brushes, M. W. Jenkins' Sons is prepared to supply a standard or special brush to meet your need.



FURNISHER



PRINTING BLANKET WASHER



PRINTING BLANKET DRIER

OTHER METLKOR BRUSHES FOR SYNTHETICS:

BRUSHING MACHINE CARDING
BRUSHING PRIOR TO PRINTING

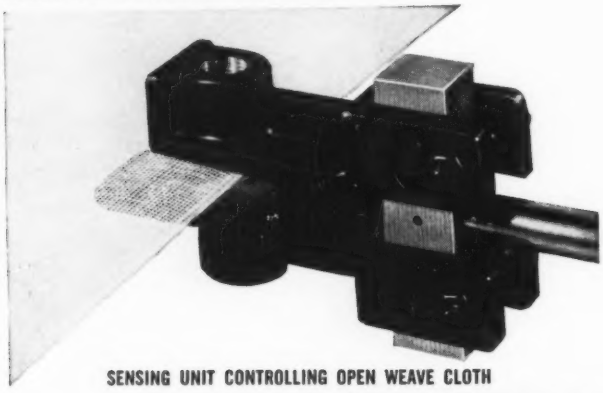
M. W. JENKINS' SONS, INC.

Three-Quarters' Century of Pioneering Brushes for Industry

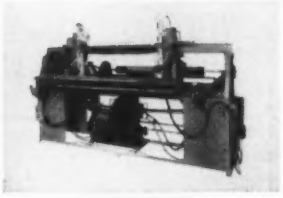
Cedar Grove, Essex County, New Jersey

ASKANIA
CLOTH GUIDE CONTROL

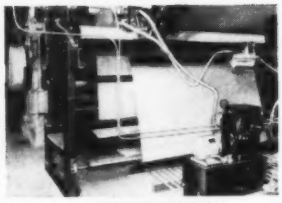
Nothing touches the cloth but a breath of air



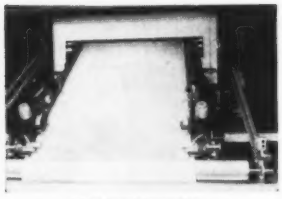
SENSING UNIT CONTROLLING OPEN WEAVE CLOTH



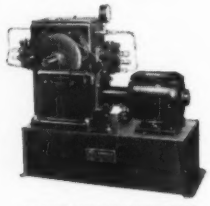
SELVAGE MARKER



PIN TYPE TENTER



CLIP TYPE TENTER



CLOTH GUIDE REGULATOR

The Askania Cloth Guide Control has been tested on hundreds of applications—it's extremely fast, accurate and dependable. It guides fast moving webs with a breath of air. It's an ideal unit to solve your cloth guiding problems on Tenter Frames, Tubing Machines, Folding Machines, Examining Machines, Printing Machines, Slitting Machines, Labeling Machines or Rewinding Machines. Askania Cloth Guide Controls are establishing new standards in the finishing departments of hundreds of Textile Mills. If you have a cloth guiding problem—ask for Bulletin A-161, or call Askania engineers for full details.

ASKANIA REGULATOR COMPANY
272 E. Ontario Street, Chicago, Illinois
Subsidiary of General Precision Equipment Corp.

READER SERVICE *(Continued)*

ENGINEERING AND MAINTENANCE

Boiler-water gauges—Flanged connections and expansion bends eliminate stuffing boxes. Stainless-steel facing for gasket recess. Yarnall-Waring Co. **(F-31)**

Vacuum-cleaning systems—Consist of centrifugal exhauster for moving air, dust separators for collecting material, and a piping system for conveying material. Bulletin A939. U. S. Hoffman Machinery Corp. **(F-32)**

Ramps—For hand trucks. One man can place ramp in position. Secured with locking pins. Will not creep or shift. Sizes to span gaps from 9 to 27 ins. Elizabeth Iron Works, Inc. **(F-33)**

Automatic lubrication—Has three elements. Lubricator, which delivers measured volume of oil; distribution system, a single tubing; meter unit at every bearing. Bijur Lubricating Corp. **(F-34)**

Controlled-volume pumps—For low-capacity flow control. Pumps conserve chemicals because they meter and pump exact amount. Bulletin 1253. Milton Roy Co. **(F-35)**

Boiler baffles—Designed for the streamlined flow of gas over heat-absorbing surfaces. Analysis of 30 boiler-setting plans. Bulletin BW 54. Engineer Co. **(F-36)**

Power transmission—Drive gives twice the contact area, 50% more horsepower, eliminates matching, reduces face pressure, allows shorter centers. Bulletin 6638. Raybestos-Manhattan, Inc. **(F-37)**

Valves—How to choose them. Gate valves should be used for stop valves, not to regulate flow. Globe valve most suitable for throttling flow. Crane Co. **(F-38)**

Flexible liquid-tight conduit—For wet locations. Synthetic cover protects wiring against moisture, dirt, chemicals, and corrosive fumes. Bulletin VA-530. American Brass Co. **(F-39)**

Motor drives—A.c. and d.c. motors, adjustable-speed drives, electronic controls and regulators, M-g sets, generators, and regulators. Bulletin A2703. Reliance Electric & Engineering Co. **(F-40)**

GENERAL

Engineering services—Research for development of new products, trouble shooting for operation improvement, advisory services on technical and economic problems. Foster D. Snell, Inc. **(F-41)**

Scales—8 choices of dial direction, life-time fulcrum, stainless-steel beams, 24x30-in. platform, wheels concealed within base dimensions. Toledo Scale Co. **(F-42)**

Electric typewriters—Save $514 per year each typing station, increase production 135%, produce cleaner copy, handle large carbon pack. Bulletin RE 8678. Remington Rand Inc. **(F-43)**

Private paging system—To reach roving key personnel anywhere in offices

Hiduminium

makes the most of *Aluminium*

when it comes to Beam Flanges, Reels and Bobbins
for the Textile Industry.

HIGH DUTY ALLOYS LTD · *AGENTS:* RUSSELL ASSOCIATES INCORP.
165 ORINOCO DRIVE, BRIGHTWATERS, L.I. N.Y.

For Assured Quality Specify GLASCO

TANKS, PAILS, STORAGE CONTAINERS and other accessory equipment.

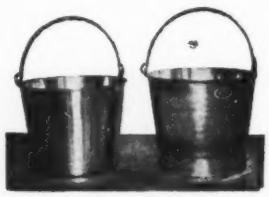
Typical of a big line are:

STAINLESS STEEL STORAGE CONTAINERS

— 18 gauge, polished outside, top edge doubled metal flanged out ⅝" at 90°. Has 2 stainless steel tubular handles. Foot is 12 gauge polished stainless steel either spot or tack welded to container and sealed with solder. Capacities: 10 gals. (14" x 16"), 15 gals. (16" x 18"), 20 gals. (18" x 19"), 25 gals. (20" x 20"), 35 gals. (21" x 24"), 50 gals. (22¾" x 30").

STAINLESS STEEL PAILS

drawn in one piece (seamless), with bail handles, come with or without foot — unpolished, or polished inside, or outside — or both. They run in capacities of 12, 16 or 20 quarts.



MIXING AND STORAGE TANKS

Come in four styles: flanged and dished bottom, flanged bottom—flat or pitched, disc bottom—flat or pitched, cone bottom. Capacities: 25-50-75-100-150-200-250 and 300 gallons. Two styles of pipe legs (either with floor flanges or adjustable sanitary feet)—or with platform lugs or removable stand. Tanks 25 through 100 gallons are of 16 and 18 gauges—and from 150 through 300 gallons they are of 14 and 16 gauges (depending on style of bottom). Extras include: 1 piece flanged cover, hinged cover, and motor bracket.

Manufacturers of modern metal equipment for wet processing uses, including Dye Jig Enclosures, Dye Tubs and Becks, Wash Tubs, etc., of stainless steel and other metals that resist corrosion under most alkali and acid conditions.

GLASCO EQUIPMENT CORP.

Pioneer Fabricators of Stainless Steel Equipment

10 WAIT STREET — GLASCO PRODUCTS — PATERSON 4, N. J.

Phila. Area: Marple Organization, 1200 Commercial Trust Bldg., Philadelphia 2, Pa.

New York State: Sanders Industrial Equip. Co., 1351 Broadway, Albany 4, N. Y.

South: Henry H. Hersey Co., 44 Norwood Place, Greenville, So. Car.
New England: Harris & Underhill, 446 Statler Bldg., Boston, Mass.

READER SERVICE *(Continued)*

or buildings. No loud speakers to distract production. Smaller than cigarette pack. Dictograph Products, Inc. **(F-44)**

Engineering audit—Of facilities and organization. Scope covers financial, sales, engineering, manufacturing, materials, personnel, and service operations. Anderson-Nichols & Co. **(F-45)**

Safety—Accident rate in the textile industry was down 14% over 1952. Seven easy steps eliminate accidents. National Safety Council **(F-46)**

Bigger profits—From cotton rags and cuttings. Keep out metal items, elastic, floor sweepings, rubber bands, synthetic cuttings. Cotton Rag Council. **(F-47).**

Sound-absorbing device—Can easily be moved. Cannot be injured by moisture. Weighs 2½ lbs. per unit. Located as close to sound source as desired. Sonosorber Corp. **(F-48)**

Pneumatic conveying systems—Railroad cars are unloaded through 4-in. piping using 30 hp. at a rate of 260 lbs. per min. Convair. **(F-49)**

Packing and shipping—In corrugated boxes. Humidity and temperature control for storage. Stacking and loading tips. Hinde & Dauch Paper Co. **(F-50)**

Make Shrinkproof Repairs To Concrete Surfaces

Repairs to concrete floors, ramps, platforms, corridors, loading docks, etc. are often poorly made. Shrinking then results, and trucks moved over the repaired surfaces are hard to push and guide because the casters hang in the cracks.

Follow these instructions, prepared by A. C. Horn Co., Inc., for smooth shrinkproof patches:

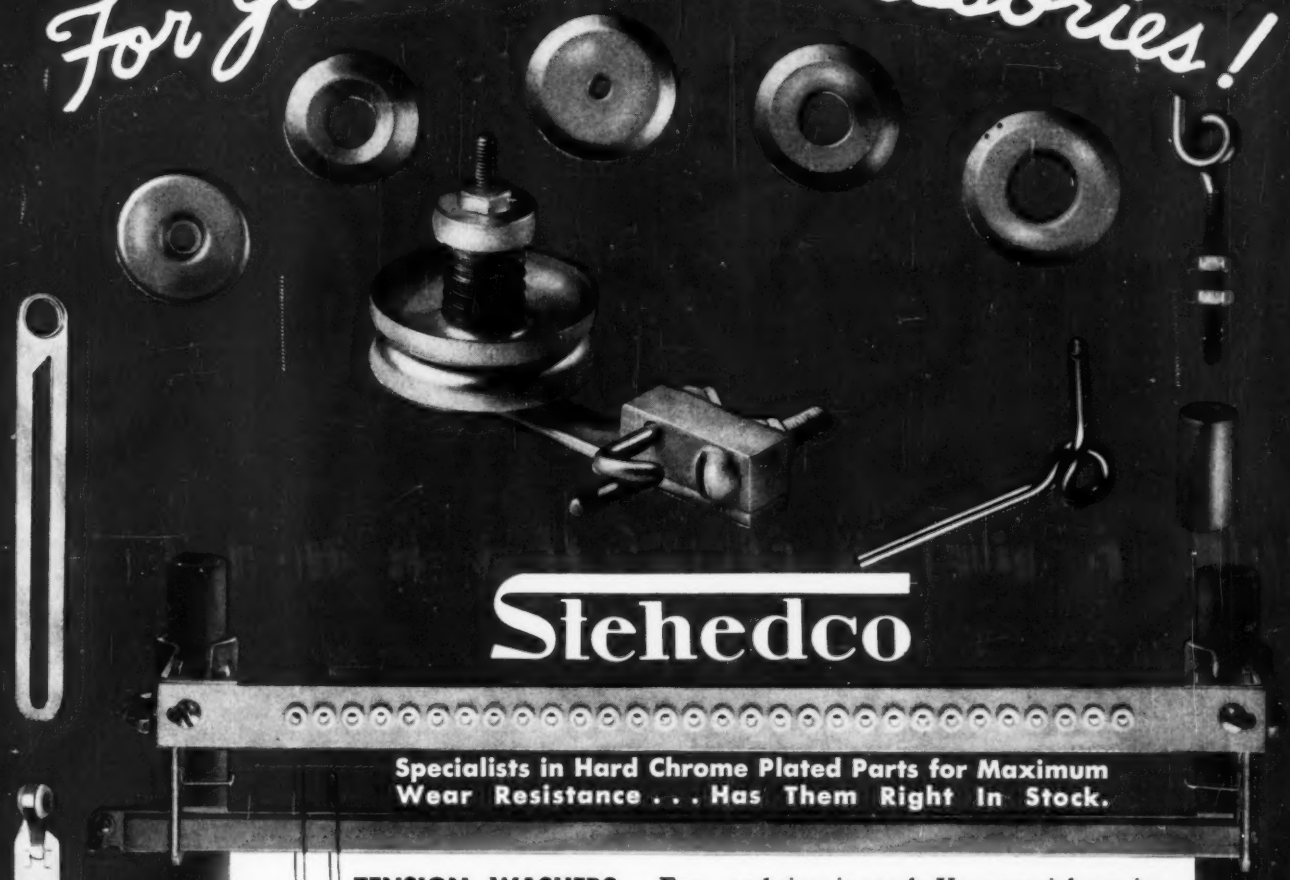
1. Chip out the old concrete to expose a clean surface. Where holes are shallow, cut them out to a depth of at least 1 in. Where grease and oil are present, cut the hole deep enough to remove all traces of the stain to insure a good bond for the patch. Cut all edges square and perpendicular.

2. Sweep away all loose concrete chips and dust.

3. It's very important to saturate the surface and edges of the hole with water over a period of 4 to 6 hrs. Then

STEEL HEDDLE MFG. CO.

Check For Your Creel Accessories!



Stehedco

Specialists in Hard Chrome Plated Parts for Maximum Wear Resistance . . . Has Them Right In Stock.

TENSION WASHERS — For ⅛"-13/32" and ½" posts. Weights ranging from 15 to 170 grains.

New processing methods insure even tension through perfect surface flatness and uniformity of finish, whether satin or bright.

PIGTAIL GUIDES — Over 200 styles and sizes in stock. Your special requirements are no problem to us. Please furnish a sample for proper identification.

STOP MOTIONS — For any type Creel. Alsimag or porcelain eyes. Chrome plated, alsimag or porcelain eye drop wires in any weight required.

Steel Heddle Mfg. Co. carries a full line of Warp Preparation Equipment. Future advertisements will feature equipment for Warpers and Slashers.

Stehedco and Southern
WORLD FAMOUS TRADE MARKS OF THE
Steel Heddle
Mfg. Co.
1 P-17

STEEL HEDDLE MFG. CO., 2500 W. Allegheny Ave., Phila. 32, Pa.
SOUTHERN SHUTTLES Parts Plant, Greenville, S. C.
Sales Office and Mfg. Co.
STEEL HEDDLE COMPANY OF CANADA, LIMITED
[illegible]

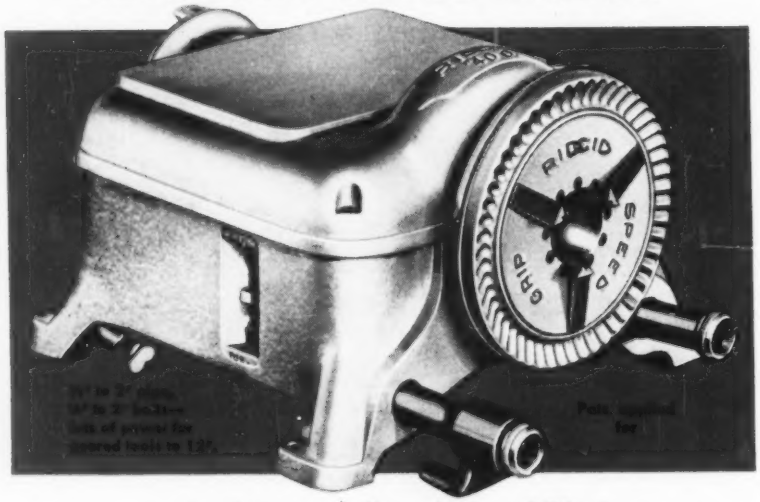
Sales Agents and Offices Greenville, S. C. • Atlanta, Ga. • Greensboro, N. C. • Providence, R. I.
[illegible]

"More Power To You"

when you have to Cut, Ream or Thread Pipe

New RIDGID

400A Power Drive with new SPEED CHUCK



...A bargain in efficiency and easy operation!

The amazing new chuck on this 400A is not just another hammer chuck. It operates on a new principle of gripping pipe and rod. Guaranteed to hold any kind of pipe securely both ways, forward or reverse. No slipping, even in driving geared tools. Extra easy to operate: close jaws on work with hand wheel, sock lightly—motor action makes it grip tighter; releases easily by turn of hand wheel. Thousands of these efficient, powerful, durable units in use everywhere. For most service for your money, ask your Supply House for the new 400A. (No. 400 with lathe-type chuck also available.)

THE RIDGE TOOL COMPANY, ELYRIA, OHIO, U.S.A.

RIDGID
Work-Saver Pipe Tools

MILL MAINTENANCE

(Continued)

remove any excess pools of water in hollows.

4. While the concrete is damp, apply a slush coat of a mixture of equal parts, by weight, of a metallic aggregate and cement. Approximately 30 lbs. of the mixture is required for each 100 sq. ft. Thin the mixture with water to a brushing consistency, and work the grout well into the rough concrete and edges with a stiff-bristle brush.

The slush coat must be applied just before the patch is installed and must not be allowed to dry out.

5. Prepare the patching mix by weighing ½ part metallic aggregate, 2 parts cement, 3 parts sand, and 4½ parts ¼-in. gravel. Add just enough water to make a stiff topping mixture.

6. Place the mixture in the hole and tamp it well with a steel-grid tamp. Screed off the excess mix level with the surrounding floor surface.

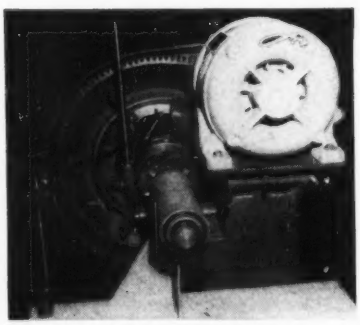
7. Work the surface with a wood float and steel trowel. Do not work the surface excessively with the trowel.

8. After the surface has set sufficiently hard to form rings when it's worked with a trowel, burnish it with a steel trowel to a hard, dense finish free of all voids.

9. When the surface is so hard that it cannot be marred, cure the area by covering it with wet burlap or damp sand or by keeping it wet with water for 48 hrs. before it's opened to traffic.

Equipment and Supplies

CONTINUED FROM PAGE 136



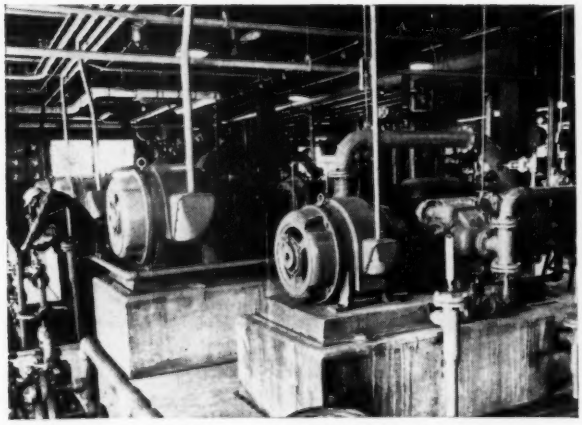
Improved Card Drive

The individual card drive made by Southern States Equipment Corp., Hampton, Ga., has been redesigned. The drive consists of a 1.5-hp. standard motor with a fibre pinion driving a large gear on the card shaft; and the drive is controlled by a clutch lever

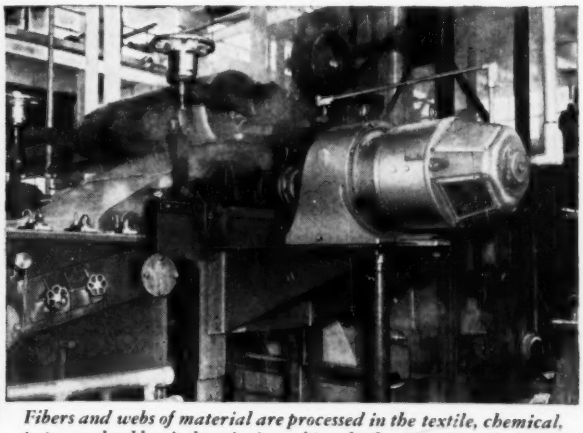
BUILT AND APPLIED BY RELIANCE

THE Tools of Automation

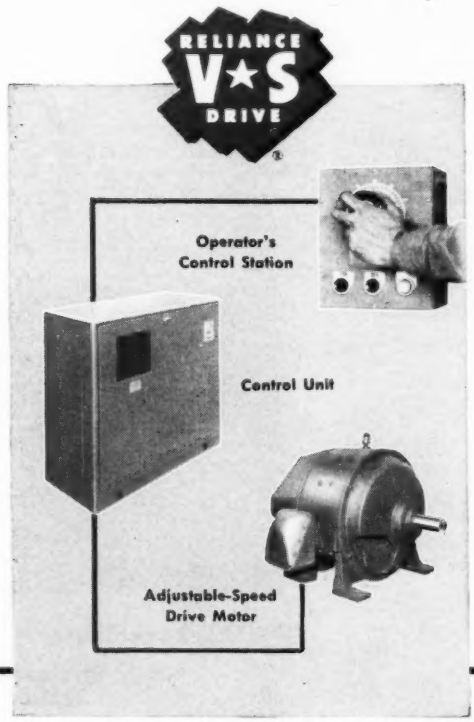
INCREASE PROFITS IN EVERY INDUSTRY



Automation in refineries and the petro-chemical industries is made practical by the choice of the correct Reliance A-c. motors. They provide unfailing power for those processes which go unattended hour after hour.



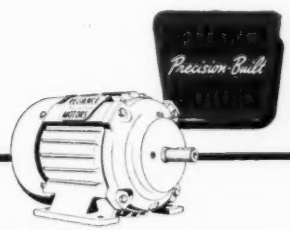
Fibers and webs of material are processed in the textile, chemical, paper and rubber industries in making the final product. Designed to suit each need, Reliance V★S Drives start, accelerate and control the process speed of these machines so that a continuous flow of usable material is produced.



Greater machinery output . . . improved production efficiency . . . both result in increased profits. And both result from using the Tools of Automation: Reliance electric motors, adjustable-speed drives, electronic controls, and applied engineering. They're setting new standards for low cost production in *every* industry.

These Tools of Automation can most efficiently lower your costs, because they're designed and applied to *your* specific situation. Reliance Application Engineers are backed by nearly 50 years' experience in perfecting the drive systems that can help you attain the degree of automatic production you require. For further information, write for the new booklet, "The Tools of Automation".

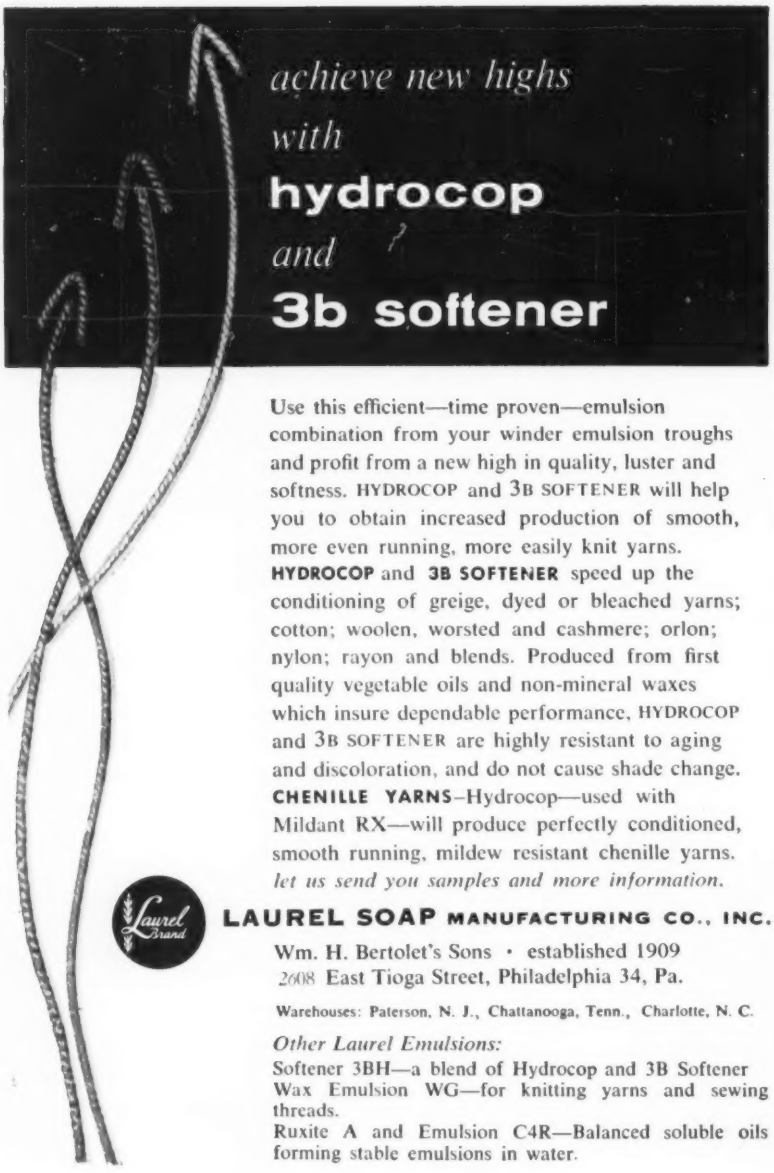
A-1687-F



RELIANCE ELECTRIC AND ENGINEERING CO.

Sales Representatives in Principal Cities • **1086 Ivanhoe Road, Cleveland 10, Ohio**

 For more information, write direct or use Reader Service post card.



Use this efficient—time proven—emulsion combination from your winder emulsion troughs and profit from a new high in quality, luster and softness. HYDROCOP and 3B SOFTENER will help you to obtain increased production of smooth, more even running, more easily knit yarns. **HYDROCOP** and **3B SOFTENER** speed up the conditioning of greige, dyed or bleached yarns; cotton; woolen, worsted and cashmere; orlon; nylon; rayon and blends. Produced from first quality vegetable oils and non-mineral waxes which insure dependable performance, HYDROCOP and 3B SOFTENER are highly resistant to aging and discoloration, and do not cause shade change. **CHENILLE YARNS**–Hydrocop—used with Mildant RX—will produce perfectly conditioned, smooth running, mildew resistant chenille yarns. *let us send you samples and more information.*

LAUREL SOAP MANUFACTURING CO., INC.

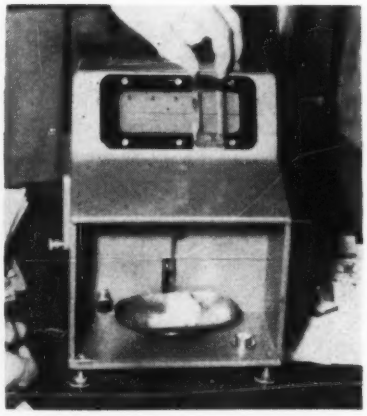
Wm. H. Bertolet's Sons · established 1909
2608 East Tioga Street, Philadelphia 34, Pa.

Warehouses: Paterson, N. J., Chattanooga, Tenn., Charlotte, N. C.

Other Laurel Emulsions:
Softener 3BH—a blend of Hydrocop and 3B Softener
Wax Emulsion WG—for knitting yarns and sewing threads.
Ruxite A and Emulsion C4R—Balanced soluble oils forming stable emulsions in water.

and a spring-loaded, self-adjusted clutch. Slippage is allowed for the starting load, and full speed is attained in about 30 secs. No changes in stripping methods are required. **(T-14)**

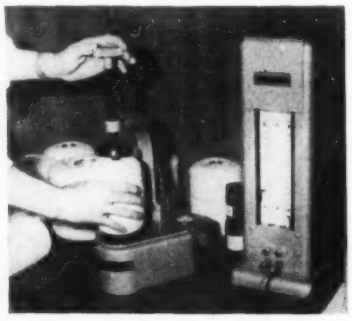
•



Direct-Reading Shadograph

A new Shadograph that gives the yarn number of sliver directly without the use of a conversion table has been developed by Exact Weight Scale Co., 944 W. Fifth Ave., Columbus, Ohio. Four scales give a range from 1,000s to 4s; a poise on a balancing arm selects the scale according to weight range, and the number is read directly from the appropriate scale. A sliding viewer is moved to the proper scale for convenient checking. The scale pan is enclosed in a glass housing. Further design improvements will be made to the housing. **(T-15)**

•



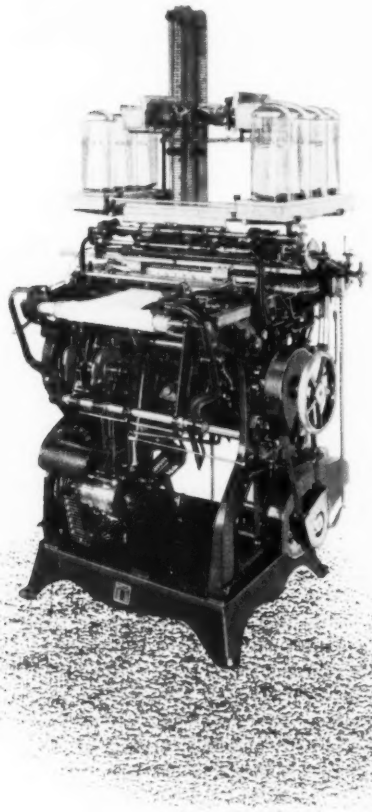
Dye-Package Tester

The dye-package permeability comparator developed by Sheffield Corp., Dayton 1, Ohio, gives an instant reading in numeral values of the degree of density of dye packages. The comparator can be used to determine optimum package density, to check winding performance, and to check

FOR MERCHANDISERS WHO
WANT TO LEAD THE FIELD

YOUR 75 HOSIERY MACHINE IS *Sales Successful!*

The WILDMAN Full Fashioned, 75 gauge machine is sales successful because, thoroughly tested, it produces hosiery with consistent quality, durable, of highest performance.



THE THREE MUSTS in hosiery sales success in today's markets are thus fulfilled — a special product, *beautiful to see, lovely to touch*, consumer accepted.

Briefly, THIS IS IT!
Planning wise, the incorporation of the 75 in production set-ups is moving fast. Smart merchandisers see the handwriting on the wall and know consumers are demanding the highest gauges — tight in stitch, of highest elasticity.

Make them on the WILDMAN 75 — your economical, efficient, automatic in operation machine.
Inquire for complete details today.

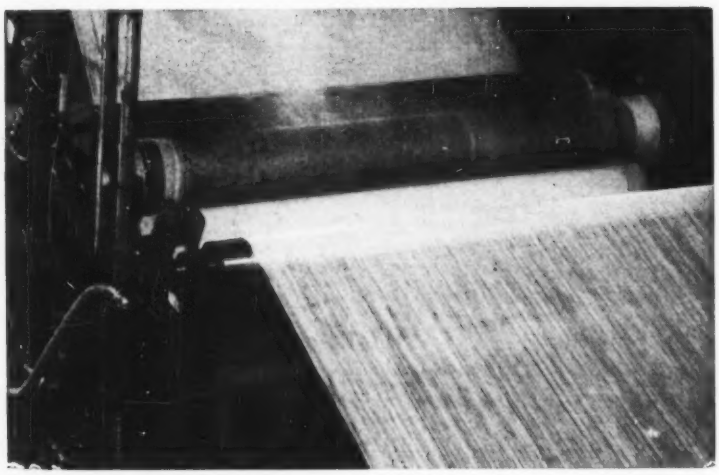
WILDMAN

MFG. COMPANY, NORRISTOWN, PA.

MANUFACTURERS OF: FULL FASHIONED HOSIERY MACHINES; CIRCULAR MACHINES FOR OUTERWEAR, UNDERWEAR, SPORTSWEAR, TRIMMINGS; STOP MOTIONS

COMBINATION QUETSCHES

make possible sizing of Combination Warps



Johnson double quetsch in action.

To be able to produce modern cloth at competitive prices you need modern equipment.

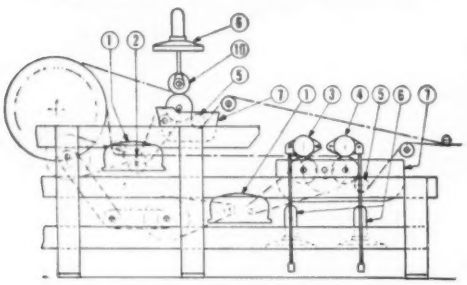
Leading mills, weaving fabrics that combine two or more natural and synthetic yarns, are installing

JOHNSON WARP SIZERS

with Combination Quetsches

They thus are able to size warps that contain mixed yarns in a single operation, saving time and improving the quality of their cloth.

Johnson makes the following quetsches for utmost versatility in sizing different types of yarns simultaneously: single, double, double-double, single-single, and single-double quetsches.



KEY TO DIAGRAM

1 Positive variable speed unit to regulate stretch between quetsch and cylinders.
2 Cut marker.
3 & 4 Four roll double quetsch.
5 Adjustable immersion roll.
6 Air motors for pneumatic loading of quetsch pressures.
7 Large stainless steel direct steam heated solution pan.
10 Two roll single quetsch.

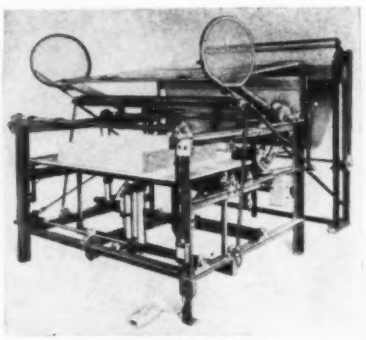
Johnson Warp Sizers were formerly manufactured by The Chas. B. Johnson Machine Works of Paterson, N. J., and are now a product of Kidde Mfg. Co. Inc.

KIDDE MANUFACTURING CO., INC.
BLOOMFIELD, NEW JERSEY

incoming shipments. Up to four packages a minute can be checked.

A portable air compressor producing 3 cu. ft. per min. at 60 lbs. pressure can be used, but regulators on the instrument will reduce air-line pressures up to 120 psi. Controlled conditions are not required. A Precisionaire scale (also used in Micronaire) is the working element. **(T-16)**

•



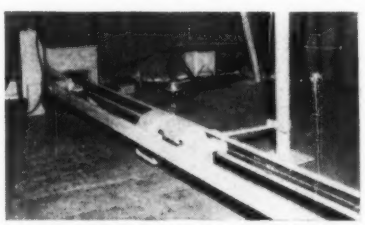
Cloth-Folding Machine

A new cloth folder with a movable upper clamping member and solidly positioned table for handling corduroys and other heavy fabrics has been put on the market by Hall & Jansson Co., 177 Highland St., Worcester, Mass.

The table is lifted by a large air cylinder and positioned through Micro switches that can be adjusted for various thicknesses of material.

Goods can be removed from underneath the jaws to a pallet while the folding blade continues to reciprocate. A foot-operated Micro switch raises the table to the folding position after the operator removes the folded batch. **(T-17)**

•



Floor Cleaner

An Airsweep floor cleaner that sweeps lint continuously along the floor from frame to frame until it reaches a collection alley has been developed by Bahnson Co., Winston-Salem, N. C. At the collection alley, an angle-mounted cleaner blows the lint to an automatic removal unit. The cleaner has a double-inlet fan with horizontal air discharge, a fractional-horsepower motor, and a precision gear box. **(T-18)**

NOW BOGER and CRAWFORD OFFERS

PLUS 4

HIGH TEMPERATURE DYED YARNS

1. FASTER COLORS
2. MORE COLORS
3. TESTED COLORS
4. FOR ALL TYPES OF YARNS

GUARANTEE

The Quality of Boger & Crawford Yarn is guaranteed — the highest tribute we can pay it!

Signed

Frederick Boger

ORLON . . . NYLON . . . COTTON . . . MERCERIZED . . . YARNS are now dyed by BOGER & CRAWFORD with their new PLUS-4 HIGH TEMPERATURE method! Advantages are many! Faster Colors! A greater range of colors! Tested Colors! For all types of yarns!

Counts: 30/2 to 120/2 inclusive C. P. mercerized as well as 30/1 to 70/1 inclusive Combed Peeler as well as 60/1 to 80/1 and 60/2 to 80/2 spun nylon . . . color fastness equal to or better than Synthetic Fiber Test #1 and #2 AATCC.

Boger & Crawford is also "tops" in bleaching . . . its bleached yarn is *permanent* white, widely used for knitting.

FREE SAMPLES SENT UPON REQUEST. WRITE US TODAY. You will quickly see the advantages of PLUS-4 High Temperature Dyed Yarns.

BOGER and CRAWFORD

"K" and E. VENANGO STS., PHILADELPHIA 34, PA., U.S.A.

SPINNING PLANT— BOGER CITY, N. C.

 For more information, write direct or use Reader Service post card.

ANOTHER
H&D FIRST

A New Look IN CORRUGATED BOXES!

Here's a **new** corrugated board with a **new** uniformly brighter color and a **new** smoother-than-ever finish

As another in a long list of "firsts," Hinde & Dauch has produced CORABRITE—an entirely new corrugated board. Over the years, H & D has developed strong, durable boxes to meet an incredible number of packaging needs. Now, to this strength and durability, H & D has added a vastly improved surface.

This lighter, smoother, stronger finish, which will be standard on all Hinde & Dauch regular shipping boxes, is the product of progressive paper chemistry at the laboratories of West Virginia Pulp and Paper Company.

CORABRITE offers a far better printing surface, thus enhancing the advertising value of your shipping boxes. Your boxes will have a more uniform appearance, too—CORABRITE eliminates 80% of the color variation found in natural finish kraft.

Don't wait. Write or call your H & D representative—ask about CORABRITE.

Corabrite

Pigment Mixer

A new mixer developed by Edward Koch of Lisbon, Conn., will be manufactured by Gabb Special Products, Windsor Locks, Conn.

The Koch mixer is a portable unit originally designed to mix pigments of ink in the textile-printing field. It has two impellers and a stator spaced close together. The two impellers turn in opposite directions and create a pumping action, which moves the material from the bottom upward through the veins of the stator. Since the impellers turn in opposite directions with a very small space between, a shearing action takes place and breaks up any particles that are present. To further channel the flow of material, the impellers are enclosed in a cylindrical housing.

The mixing action takes place under the surface, and a minimum amount of oxygen is forced into the mixture. Based on water as the material to be mixed, the mixer is capable of handling 170 gals. per min. with a 2-hp. motor. **(T-19)**

•

Four Lubricants

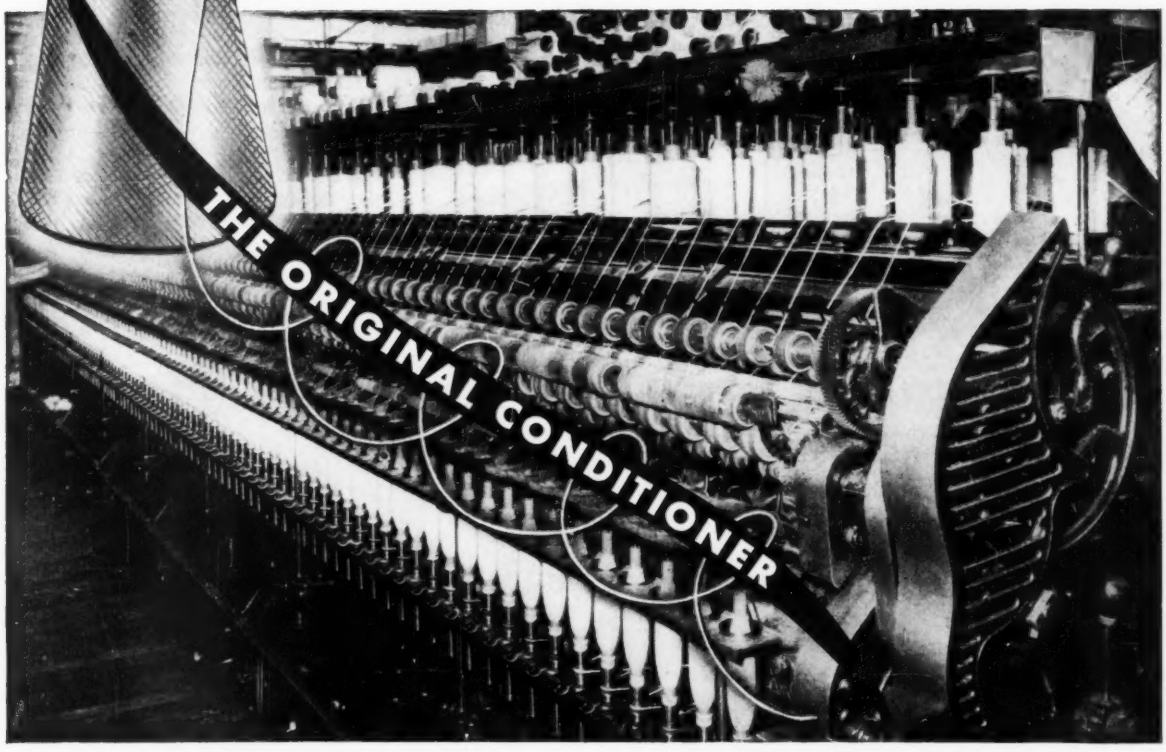
Four new lubricants are available from The Pure Oil Co., Industrial Sales Div., Chicago, Ill.:

1. Purotwist, a twister-ring oil, has a high viscosity index, high resistance to oxidation, and high film strength and provides rust protection for rings and travelers.

2. Purospin, a spindle oil, has a high film strength, lubricity, and viscosity index, a low stable pour test (makes cold-weather start-ups easy), and an antifoam agent. Contaminants are

For more information, write direct or use Reader Service post card.

Specify MINEROL



For Controlled Flexibility

There Is No Substitute for Quality

BORNE Since 1874 SCRYMSER

Our Laboratory Facilities are always at your disposal

IN THE opening, picking, carding, and spinning operations — maximum efficiency demands flexibility of fibres — both natural and synthetic. And that is the very function MINEROL performs so satisfactorily.

MINEROL not only fits in with modern methods of humidification used by the Textile Industry but actually augments and transcends them. For MINEROL stabilizes processing conditions two ways — (1) by retaining moisture and (2) by lubricating fibres.

As a result, scores of case histories prove that MINEROL not only cuts costs and eliminates waste in time and material, but actually pays for itself in increased production. Better Employee Relations result from reduction in card waste and "fly".

If you would like complete information on MINEROL,—let us know the type, grade, and staple of the fibres you use, whether the fibres are to be carded or combed, and what type of opening or picking equipment you employ. With this information in hand — we'll do the rest.

BORNE, SCRYMSER COMPANY ELIZABETH, N. J. • CHARLOTTE, N. C.

LOWELL Shuttles

DOGWOOD OR PERSIMMON
FIBRE-COVERED OR PLAIN

1. Shuttle for carpet loom 2. Shuttle for automatic wool or worsted loom 3. Shuttle for plain worsted loom 4. Shuttle for automatic cotton loom (equipped with brass threader) 5. Shuttle for automatic cotton loom (equipped with cast iron threader) 6. Shuttle for silk or rayon loom (equipped with Paterson tension and fibre covered on one side)

LOWELL SHUTTLES, widely recognized for their quality for more than half a century, include automatic and non-automatic types for all kinds of textile fibres and mills. Lowell Fibre Covered shuttles prevent roughing-up of yarns and the covering is applied to stay. The wood is thoroughly seasoned, carefully dried and finished to specifications. Shuttles can be furnished with automatic tension eyes, if desired.

WRITE FOR LOWELL SHUTTLE CIRCULAR

LOWELL SHUTTLE COMPANY
Established 1896 • Incorporated 1914
15 TANNER ST. LOWELL, MASS., U. S. A.

SALES REPRESENTATIVES
Hendrik Van Brederode, 311 Godwin Ave., Midland Park, N. J.; W. P. Russell, P. O. Box 778, Atlanta, Ga.; West Philadelphia Supply Co., Emerald and Somerset Sts., Philadelphia, Pa.

suspended in the oil and do not settle out to form sludge.

3. Puroknit, a knitting-needle oil, is formulated for high resistance to size build-up and oxidation, protection against rust, low surface tension, and good scourability.

4. Rollex lubricants for bearing surfaces prevent lubricant creep and spatter. Saddle wicks and oil holes are said not to stop up with these lubricants. They are formulated for high resistance to oxidation and sludging, and they can be used in old or leaking comb boxes without foaming. The additives will not separate in storage or break down from mechanical agitation. **(T-20)**

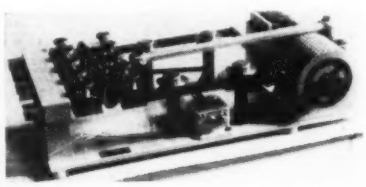
•

Color-Matching Lamp

Developed for basic industrial color matching, the Macbeth Industrial lamp has a new switching system, control panel, and one-piece construction.

Over-all dimensions: height, 50½ ins.; width, 33⅜ ins.; depth, 19⅛ ins. The lamp comes equipped with filters, diffusing glass, voltmeter, blower and motor, and operating control. The manufacturer is Macbeth Corp., Box 950, Newburgh, N. Y. **(T-21)**

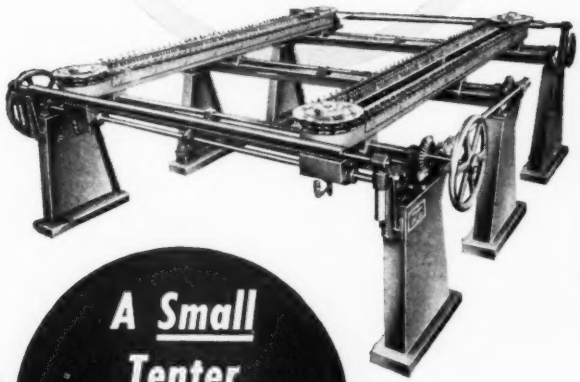
•



Bending Tester

A bending tester developed by K. Zweigle, Rentlingen, Germany, for determining the bending coefficient of

Order M&W TENTERETTES



A Small Tenter For Your Special Needs

M & W Tenterette: 30", 80" or 100" long, using our No. 12 tenter clip. We build to any maximum width, with either straight or hinged rails. Serves many uses.

These short tenters are made *only* by M & W — one of our specialties, developed to answer special needs in many foremost finishing plants.

We can promptly supply full data — advise you how M & W Tenterettes, and other devices like our Constant Tension Batchers, can fill long-felt needs in your plant that no other machinery satisfies. Write today for information on —

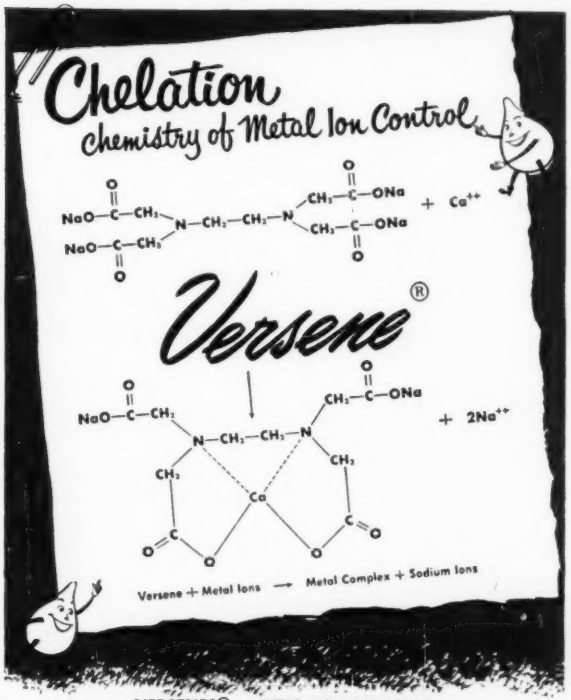
√ *Tenterettes*

√ *Constant Tension Batchers*

Ask for details without obligation.

MARSHALL and WILLIAMS CORPORATION

PROVIDENCE, R. I. • GREENVILLE, S. C. • NEW YORK, N. Y.



VERSENES® — KEYS TO CHELATION

Not so long ago "Chelation" and "Versenes" were little known, unfamiliar words. Today, however, practically every chemist understands that chelation is the chemistry of metal ion control and that the Versenes are the chemicals that make it work. Over the last quarter-century Bersworth and Versenes Incorporated have pioneered and developed this new concept of trace metal control to a point where it has now become a leading chemistry of our time.

MOLE-FOR-MOLE TRACE METAL CONTROL

Probably nothing creates more complexing problems in industrial, agricultural or medical chemistry than excesses or deficiencies of metallic ions. Prior to chelation and the Versenes there was no specific way to solve them. But now, the Versenes provide exacting mole-for-mole control over trace metals throughout the pH range.

APPLICATIONS UNLIMITED

Whenever you have a problem that involves the control of metallic ions you are invited to share our accumulated research, knowledge and experience in this field. We can help you stabilize pharmaceuticals; prepare pure metal compounds; improve wet processing of products and prevent or remove stains in textiles, tanning or paper; get better control over polymerization or hard water scale; secure clear and brilliant solution formulations; obtain more efficient soaker alkali formulations; remove rust without embrittlement; develop up-to-date analytical procedures; cure chlorosis in plants, etc.; treat heavy metal poisoning; insure chemically clean surfaces for metal finishing; increase detergency of soaps and synthetics; get better "kills" with quarternary sanitizers.

Send for Technical Bulletin No. 2. Ask for samples. Chemical Counsel on request.

"Chemistry's most precise chemicals"

VERSENES INCORPORATED

(FORMERLY BERSWORTH CHEMICAL CO.)

FRAMINGHAM, MASSACHUSETTS

WAREHOUSE STOCKS

Chas. S. Tanner Co., Liberty Life Bldg., Charlotte, N. C.
Kraft Chemical Co., Inc., 917 West 18th Street, Chicago 8, Illinois
Independent Chemical Corp., One Hanson Place, Brooklyn 17, New York
George Mann & Co., Inc., 251 Fox Point Boulevard, Providence, Rhode Island
Barada & Page, Inc., Houston, Dallas, Corpus Christi, New Orleans,
St. Louis, Wichita, Oklahoma City, Tulsa, Kansas City, Mo.
Braun-Knecht-Heimann Co., San Francisco, California
Van Waters & Rogers, Inc., Seattle, Wash. & Portland, Ore.
Braun Corporation, Los Angeles, California
European Manufacturing Agent
Rexolinfabriken Aktiebolag, Helsingborg, Sweden

 For more information, write direct or use Reader Service post card.

Can't rust out!

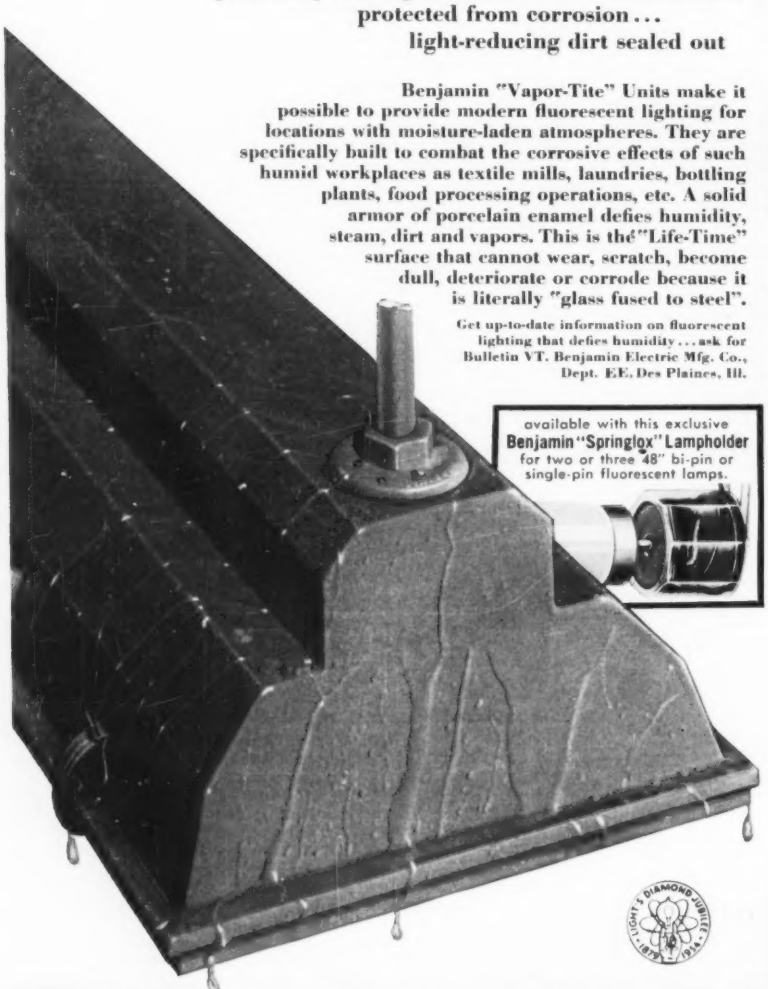
no cracks or crevices... no place for rust to get a foothold... seamless, one-piece housing with unbroken surface of "Life-Time" Porcelain Enamel!

No service breaks due to humidity!

poor lamp-starting eliminated... electric contacts protected from corrosion... light-reducing dirt sealed out

Benjamin "Vapor-Tite" Units make it possible to provide modern fluorescent lighting for locations with moisture-laden atmospheres. They are specifically built to combat the corrosive effects of such humid workplaces as textile mills, laundries, bottling plants, food processing operations, etc. A solid armor of porcelain enamel defies humidity, steam, dirt and vapors. This is the "Life-Time" surface that cannot wear, scratch, become dull, deteriorate or corrode because it is literally "glass fused to steel".

Get up-to-date information on fluorescent lighting that defies humidity... ask for Bulletin VT. Benjamin Electric Mfg. Co., Dept. EE, Des Plaines, Ill.


available with this exclusive
Benjamin "Springlox" Lampholder
for two or three 48" bi-pin or
single-pin fluorescent lamps.

BENJAMIN
TRADE MARK

6821

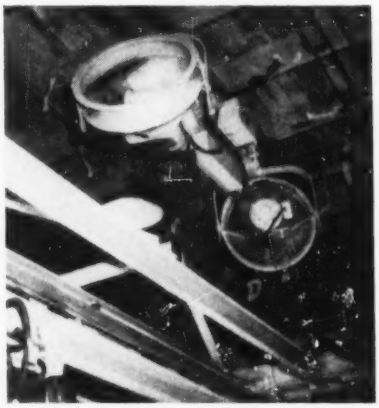
"VAPOR-TITE"

Sold exclusively through electrical distributors

A Product of Benjamin Electric Mfg. Co.
makers of famous Benjamin and Leader Line lighting equipment and Sound Signals for Industry, Institutions and Commerce.

synthetic materials is available from Stellite American Corp., 60 E. 42nd St., New York 17, N. Y. The apparatus has five pairs of clamps, into which are inserted samples of a single fold. The left-hand clamps are adjustable. The right-hand clamps are moved by a motor, with an adjustable stroke of from 30 to 50 mm. Samples can be stretched or pressed together in any desired degree. An eight-digit counter records the bends numerically. (T-22)

•



Twin-Fans Cleaning Unit

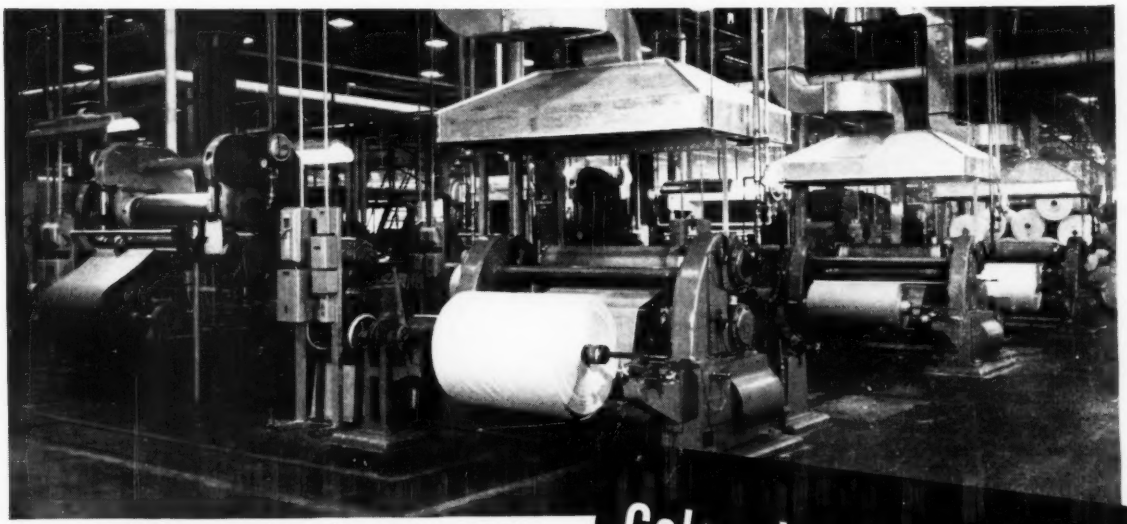
A twin-fans cleaning unit, developed by Louden Machinery Co., Fairfield, Iowa, has 1-hp. motors driving each fan. One fan is aimed to the right rear of the traverse, and the front fan is aimed to the left of the traverse. A third motor drives the unit around the track.

The electrification of the unit features a shockproof system, which eliminates exposed conductor bars and reduces danger from shocks and sparks. (T-23)

•

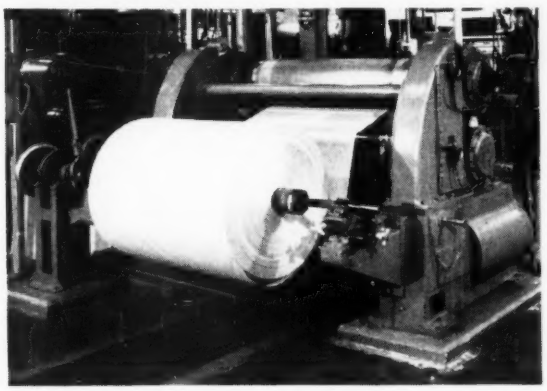
Screen-Printing Carriage

A screen-printing carriage made of light alloys has been developed by Wall & Co., Bolton, England, for use with the manual screen-printing method. The carriage is designed for easy cleaning, and it can be wiped down in a few seconds. Bearings are housed in the tubular frame members, and lubricants cannot reach the printing table. The chassis can be raised or

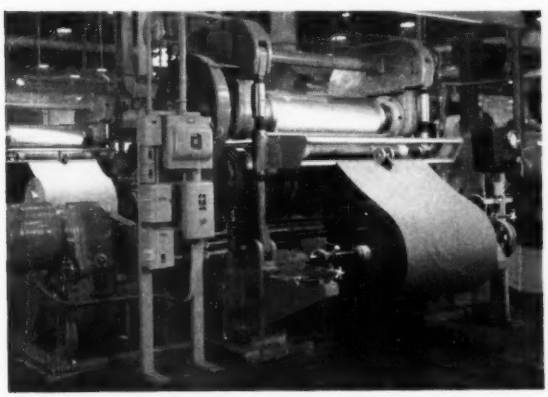


View of finishing operation at The Springs Cotton Mills, Grace Bleachery Division showing Appleton Machine Company 20 Ton Embossers and 50 Ton Schreiner Calenders.

Colonel Elliott Springs Chooses Appleton



One of three Appleton 20 Ton Embossers in use at The Springs Cotton Mills, Grace Bleachery Division.



One of three Appleton 50 Ton Schreiner Calenders specially adapted for everglaze finishes at Springs Cotton Mills, Grace Bleachery Division.

The uncommon elegance of Springmaid sheets can be attributed to Colonel Elliott Springs' shrewd judgment of textile machinery.

According to a trade journal article, the famous Springs Cotton Mills owner demands equipment that meets these requirements:

1—It must be modern.
2—It must be well made.
3—It must be the best available.

There never was a better time to invest in efficient equipment. If you would like to own the finest embossers or calenders in the industry, write or call an Appleton representative today. He will gladly analyze your needs, *without obligation.*

APPLETON MACHINE COMPANY
APPLETON WISCONSIN

CUSTOM-BUILDERS OF TEXTILE CALENDERS • CALENDER ROLLS OF ALL KINDS

Ciba

A GREAT NAME

none

FOR THE BEST

VAT DYES

The name **CIBA** is associated indelibly with progress in the production of faster dyes.

Such well-renowned names as **CIBA, CIBANONE, CHLORANTINE, COPRANTINE, NEOLAN** and **CIBALAN** are landmarks on the path of achievement extending from the turn of the century when **CIBA** played a leading part in the discovery and manufacture of some of the most important vat dyes derived from anthraquinone.

CIBANONE—"a great name for the best" vat dyes—has gained new eminence with the construction of **CIBA'S** fine modern plant at Toms River, New Jersey—the largest dye plant established in the U.S.A. for a quarter century. This magnificent modern installation will follow the **CIBA** tradition by catering to the ever-increasing demand for faster dyes—vat dyes of distinguished quality worthy of their famous name.

Ciba, Cibanone, Chlorantine, Coprantine, Neolan and Cibalan are Reg. U. S. Pat. Off.

CIBA *pioneers in the production of faster dyes.*

Better blending at less cost with a

PROCTOR

BLENDING SYSTEM

The importance of good blending and the need to perform the operation at a lower cost is well known to mill men and textile engineers.

To meet these requirements PROCTOR & SCHWARTZ offers the most modern designed blending systems available today. They are made to be used as a completely automatic unit, or as a semi-automatic operation for the smaller size mill.

The PROCTOR Roller Distributor, shown above, is the heart of the blending system used in the woolen mill. This patented unit can be used for blending wool with synthetics or for securing even color in dyed wools by re-blending the dyed lots as they come from the dye house.

PROCTOR Blending equipment is a natural for handling synthetic fibers in cotton mills or mills making worsted type yarns. There too PROCTOR equipped mills get a better blend, by using a lower percentage of high-cost material or with a higher percentage of cheaper material . . . further reducing your cost of operation.

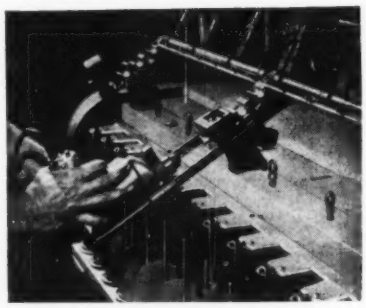
Perhaps the best part of all of this is that a blending unit can be engineered to your specific needs . . . regardless of your output requirements or the materials to be blended.

May we show you how an efficient and accurate PROCTOR Blending System can improve your product and increase your profit?

Write today for your reprint of a talk by John H. Senior delivered at Lowell Technological Institute or for information on PROCTOR Blending equipment.

PROCTOR & SCHWARTZ • INC •

PHILADELPHIA 20 • PA •



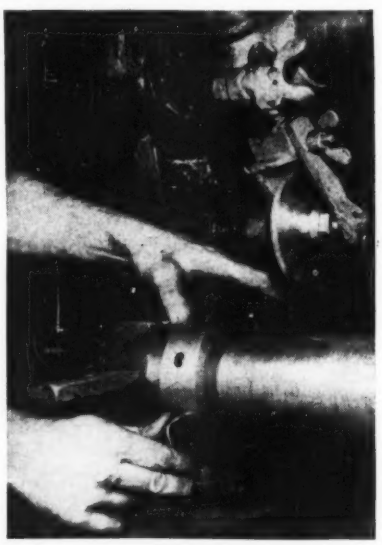
Roll-Stand Drill Jig

A new drill jig developed by Roberts Co., Raleigh Rd., Sanford, N. C., for the accurate location of grease fittings in roll stands, aids close control of front-roll-neck lubrication.

Installation of grease fittings is possible while the stands remain in place on the roll beam. The drilling operation is speeded up, and time is saved in relocating and packing the roll stands.

After bottom rolls are laid out of the stands and cap bars set back, the drill jig seats itself accurately in the front-roll bearing of each stand in turn; and the electric drill is advanced smoothly through a hardened drill bushing. All roll stands on an average frame can be drilled in less than an hour. (T-27)

•



Web-Slitting Blade

A split blade for slitting web plastics and textiles without tearing or downtime for blade alignment has been developed by Moore & White Co., Philadelphia, Pa.

The new cutter, a split double-edge bottom blade for slitters, cannot be assembled in misalignment and can-

VICTOR
Mill Starch

KEESTAR PRODUCTS

the Weaver's Friend

Always Uniform...and Backed by Keever Service

TEXTILE SALES DIVISION
1200 S. C. NATIONAL BANK BLDG.
GREENVILLE, SOUTH CAROLINA
Charles C. Switzer, Vice President

THE KEEVER STARCH CO. ★ GENERAL OFFICES ★ COLUMBUS 15, OHIO
Corn, wheat and other grain products for industry since 1898

3-2

"...and tell Millie I got hung up"

SMART BURGLARS steer clear of Cyclone Fence. That's the big reason why it is the most widely used property protection fence in the entire world.

You *can* buy cheaper fence than Cyclone, but it will cost you more in the long run. Cyclone gives full value for your dollar. Nothing but brand-new, top-quality material is used throughout. The chain link fabric is woven from heavy steel wire and galvanized *after* weaving for greatest resistance to rust. Erection is handled by full-time, well-trained experts. Cyclone engineers will be glad to give you more information on your particular fencing problems.

CYCLONE FENCE DEPT., AMERICAN STEEL & WIRE DIVISION, UNITED STATES STEEL CORPORATION

WAUKEGAN, ILLINOIS • SALES OFFICES COAST-TO-COAST • UNITED STATES STEEL EXPORT COMPANY, NEW YORK

USS CYCLONE FENCE

Cyclone is the trade-mark name of fence made only by Cyclone. Accept no substitute.

FREE BOOKLET

Our informative booklet is filled with photographs, drawings and graphic descriptions of different styles of fence and gates for the protection of property. Whether you're interested in a few feet of fence or miles of it, you'll find this booklet worth your while. Send for your copy. It's free.

CLIP THIS COUPON—SEND IT TO

Cyclone Fence, Waukegan, Ill., Dept. W-124

Please mail me a free copy of your booklet.

Name.....

Address.....

City.....Zone....State.....

UNITED STATES STEEL

not get out of alignment in operation. At the same time, it is easily demounted for sharpening or when not in use. (T-28)

•

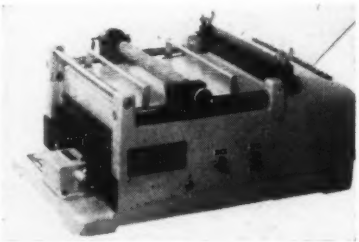
Vibrating Sieves

Vibrating sieves that provide a fast way to remove sand, grit, rust scale, etc. from dyes and other liquids have been developed by Syntron Co., 825 Lexington Ave., Homer City, Pa. The sieve is constructed of aluminum alloy, and the screening is available in No. 10 to 325 mesh in high-tensile-strength phosphor bronze or stainless steel.

The three-legged frame base fits over a large drum, barrel, or circular opening; and the screen form is bolted to a tubular section, which can be quickly removed for cleaning.

Vibration is produced by two electric vibrators mounted on the base. (T-29)

•



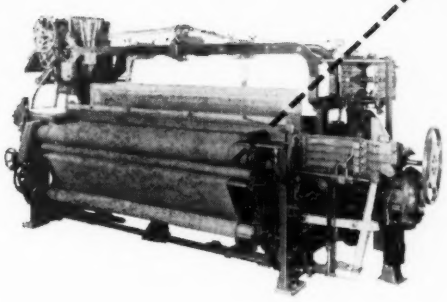
Abrasion Tester

The abrasion tester for yarn made by K. Zweigle, Reutlinger, Germany, is available in the U. S. from Stellite American Corp., 60 E. 42nd St., New York 17, N. Y. With the tester, the quality of sizing and sizing materials can be determined. Damage done by bleaching and purifying agents can also be determined. Testing 40 threads, including the calculation of average values, takes about 30 mins. (T-30)

•

Variable-Speed Drive

The Cleveland Speed Variator, just announced by Cleveland Worm & Gear Co., 3249 E. 80th St., Cleveland

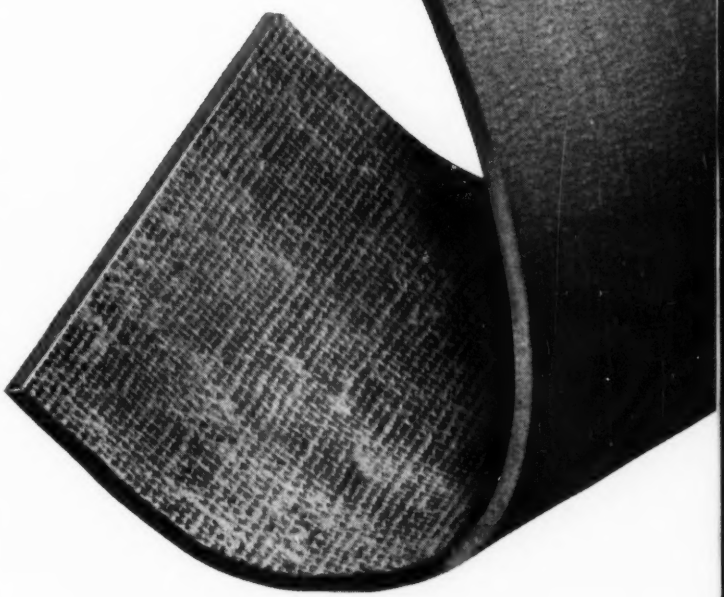


Non-marking Roll Covering gives high take-up tension, too

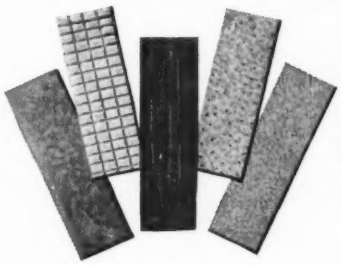
Here's a take-up roll covering that doesn't mark even the sheerest marquisettes, voiles, or chiffons. But equally important, Armstrong NO-732 Accotex® Covering won't slip. It always maintains firm, steady take-up tension.

A special synthetic rubber compound had to be developed to give the NO-732 Covering its extraordinary combination of smoothness and holding power. This unique type of rubber makes a covering that's as long wearing as it is efficient. A sturdy cloth backing gives NO-732 extra strength.

Your Armstrong man will be glad to arrange for a test of NO-732 on your looms. Why not call him today? Or write Armstrong Cork Company, Industrial Division, 6712 Dauphin St., Lancaster, Penna.



ARMSTRONG OFFERS A FULL LINE OF TAKE-UP ROLL COVERINGS



Armstrong can supply a covering to fit your needs — in synthetic rubber, cork-and-rubber, plain, or gridded cork.

AVAILABLE FOR EXPORT

Armstrong

TAKE-UP ROLL COVERINGS

CLINTON

STANDARDIZED
STARCHES

FOR THE SIZING
AND FINISHING OF

TEXTILES

C HAMBRAY
L AWN
I NTERLINING
N AINSOOK
T ICKING
O SNABURG
N ETTING

F LANNEL
O RGANDY
O XFORD
D ENIM
S HEETING

I MPERIAL
N ANKING
C HINTZ

Technical Service in connection with your specific problems is available upon request.

CLINTON FOODS INC

CORN PROCESSING DIVISION
CLINTON, IOWA

4, Ohio, is available in 9 sizes, from ¼ to 10 hp. at 1,750 input rpm.

Power is transmitted from the input shaft to the output shaft through alloy-steel driving balls, which are in pressure contact with disks attached to the two shafts. Relative speeds of the two shafts are adjusted through a 9 to 1 range (from ⅓ to 3 times the input speed) by changing the angular position of the axles on which the balls rotate, and this arrangement results in an infinitely variable range of output speeds from a constant power source.

Operating efficiencies of 75 to 90% are easily maintained over a wide range of operating conditions. (T-31)

•

Glass-Fiber Molded Tubs

Tubs in a range of stock sizes for the textile industry are being molded from glass fiber by Beetle Products Div., Beetle Boat Co., Inc., Grinnell St., New Bedford, Mass.

The tubs are light in weight and are easily washed out. They are noncorrosive, nontoxic, and electrically nonconductive; and they withstand temperatures above the boiling point. Colors are permanently impregnated in the material.

If damage occurs, the tubs can be quickly repaired on the spot, at room temperature, by unskilled labor. (T-32)

USEFUL ACCESSORIES FOR THE TEXTILE MILL

Steam Heater

An improved nonclogging steam heater designed for plants where lint is present has been introduced by Ilg Electric Ventilating Co., 2850 N. Pulaski Rd., Chicago 41, Ill. It is available in 10 capacities; fins have been eliminated in construction; and the number of copper tubes in the heating element have been increased. (T-33)

Dual-Purpose Truck

The Hi-Rider truck, a dual-purpose unit that can be used for maintenance operations and stacking, is available from Moto-Truc Co., 1899 E. 59th St., Cleveland 3, Ohio. The complete controls for the truck go up with the operator. Maximum height is made to user's specifications. A 12-v. battery supplies the power. (T-34)

Cold Galvanizer

End-O-Rust, a zinc-rich, resin-vehicle coating available from Industrial Craftsmen, Inc., 145 High Street,

A new wetting agent in the ENERGETIC family

Energetic® W-100 wets out instantly as fabrics roll into the bath!

Use this new Armour discovery for rapid wetting all through your mill!

Test any wetting agent you're now using against Armour's new ENERGETIC W-100. You'll find that ENERGETIC W-100 wets much faster, much more thoroughly. It's your key to faster, better scouring, bleaching, dyeing and desizing!

This powerful new synthetic detergent is nonionic—works on *all* fabrics, is *not* affected by textile chemicals. And it's 100% active so you can use really *low* concentrations (only about ⅛ as much as conventional anionic materials). ENERGETIC W-100 is water-white, free-flowing and free-sudsing. And it's unbuilt so you can build it to meet your own mill specifications.

Just fill in the coupon below for a free sample. Or better yet, use this coupon to place your order now for a 5-gallon steel drum of ENERGETIC W-100! See what instant wetting can do for your operations—and your profits!

Specify these Armour nonionics, too!

ENERGETIC—for superior detergency

ENERGETIC S—superior detergency with solvents

ARMOUR *Industrial Soap Department*

Armour and Company • 1355 West 31st Street • Chicago 9, Illinois

FREE SAMPLE AND ORDER BLANK

ARMOUR Industrial Soap Department
Armour and Company, 1355 W. 31st St., Chicago 9, Ill.

Please send me:

☐ FREE! Sample of ENERGETIC W-100

____ 5-gallon drums of ENERGETIC W-100 @ $14.80 each

____ Free Booklet, ENERGETIC W-100

____ Free Booklet, ENERGETIC and ENERGETIC S

☐ Bill me ☐ Check enclosed ☐ Money Order

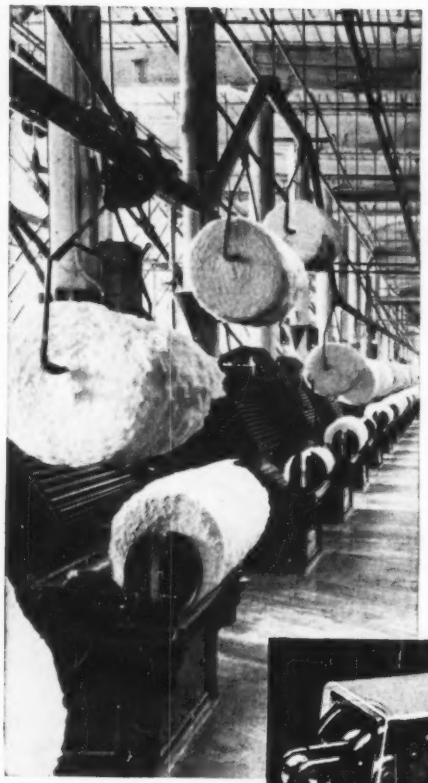
Name _____ *Title* _____

Firm _____

Address _____

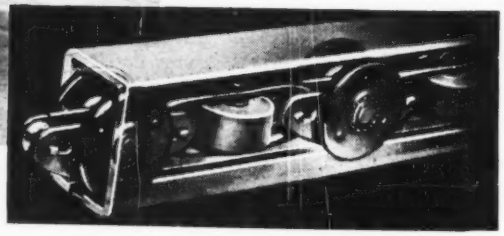
City _____ *Zone* ____ *State* _____

T12



R-W "Zig-Zag"®

Continuous Power Conveyors



Horizontal and vertical units alternate in a continuous chain traveling through special steel tubing. All moving parts fully enclosed for safety.

Quality from beginning to end

Every inch, every part of R-W "ZIG-ZAG" Continuous Power Conveyors is quality manufactured to give you longer, safer, lower-cost service. Quality pays for itself in the long run. Years of trouble free service, more efficient use of plant personnel and space, elimination of bottlenecks all mean more production, lower costs. And you can do it with "ZIG-ZAG."

"ZIG-ZAG" Conveyors take materials handling *overhead* where space is ample. The track moves up, down, in, out and around, carrying unit loads up to 125 pounds and speeds from one inch to sixty feet per minute.

The entire system may be altered or relocated by plant personnel to fit new conditions, in most cases using all the parts. Changing production requirements can be easily accommodated because carrier pendant centers are located 6" apart throughout.

Yes, quality manufacture means extra service, more efficiency and lower costs. R-W "ZIG-ZAG" Conveyors give you all of these.

Write today *for complete details or consult with an R-W Engineer—at no obligation*

1880 RICHARDS WILCOX R-W AURORA 1954

SLIDING DOOR HANGERS & TRACK • FIRE DOORS & FIXTURES • GARAGE DOORS & EQUIPMENT • INDUSTRIAL CONVEYORS & CRANES • SCHOOL WARDROBES & PARTITIONS •

Richards-Wilcox Mfg. Co.

MATERIALS HANDLING DIVISION
Branches in Principal Cities

446 W. THIRD STREET, AURORA, ILLINOIS

Boston, Mass., is applied by brush. End-O-Rust bonds to any iron or steel surface, even a rusty one, that is dry, free of grease and loose scale, and not painted with a tar or bituminous paint. **(T-35)**

Magnetic Flow Meter

A new electromagnetic flow meter, designed for 2- to 8-in. flow lines, has been introduced by The Foxboro Co., Foxboro, Mass. The instrument is rated for unlimited maximum flows. Unaffected by pressure, viscosity, density, or changes in conductivity of the flowing liquid, it is recommended for aqueous solutions and corrosives. **(T-36)**

Submersible Pump

Submersible pumps being manufactured by Peerless Pump Div., Food Machinery & Chemical Corp., 301 West Ave., Los Angeles 31, Calif., are designed for deep wells to 280 ft. and for providing capacities up to 940 gals. per hr. from shallower settings. It is available in ½-, ¾-, and 1-hp. models. **(T-37)**

Helanca-Sock Bag

A heat-sealable cellophane Helenca-sock bag, printed in three bright neutral colors, has been designed by N. T. Gates Co., Drexel Building, Philadelphia, Pa. Features of Helenca socks are printed on both sides of the package, which measures 4x9½ ins. Brand names are printed at an additional cost. **(T-38)**

50-lb. Coil Holder

A 50-lb. coil holder for wire-stitching machines is available from Acme Steel Co., 2840 Archer Ave., Chicago, Ill. The new coil holder was developed for single-head and double-head box stitchers to provide longer stitching runs and shorter stops to reload. **(T-39)**

Narrow-Aisle Truck

Operation in aisles as narrow as 6 ft. is possible with the RSAT-3 Warehouser developed by The Yale & Towne Mfg. Co., 11,000 Roosevelt Blvd., Philadelphia 15, Pa. The truck is equipped with extendable forks, which extend 20 ins. beyond the outrigger wheels to pick up and deposit loads. Capacity is 2,500 lbs. **(T-40)**

Reducing and Relief Valve

High-pressure combination reducing and automatic-relief valves designed for low-capacity applications are available from Atlas Valve Co., 280 South St., Newark, N. J. The spring-load valves can be used for initial pressures as high as 4,000 psi. and reduced pressures from 2,000 to 0 psi. in adjustable increments. Size: ⅛, ¼, ½, and ¾ ins. **(T-41)**

The OK BRAND name is your assurance of textile starches of highest quality, perfect uniformity, and absolute dependability. Enjoy the advantages of these fine textile starches tailor-made to your manufacturing requirements. You'll profit from improved sizing, finishing, and printing operations with OK BRAND . . . because top-quality OK BRAND costs no more.

the stamp of quality

OK BRAND

ESTABLISHED IN 1881

THE HUBINGER COMPANY

KEOKUK, IOWA

New York • Chicago • Los Angeles • Boston • Charlotte

Some of the industry's leading technical experts are on Hubinger's staff. Let them show you the way to better products—and plant savings, too.

 For more information, write direct or use Reader Service post card.

NEW BRUSH TENSION ANALYZER*

MEASURES TENSIONS AT HIGH SPEEDS

● The Brush Tension Analyzer accurately measures and records instantaneous tension loads in filamentary materials—can be used during production of all natural and synthetic textiles as well as fine wire. The Analyzer measures both static tension levels and dynamic tension variations while the material is running at high production speeds. No manual plotting of data is required. For booklet write Brush Electronics Company, Dept.GG-12, 3405 Perkins Avenue, Cleveland 14, Ohio, or Southeastern Textile Instrument Office, 91 Cleveland Street, Greenville, South Carolina.

*Trade-Mark

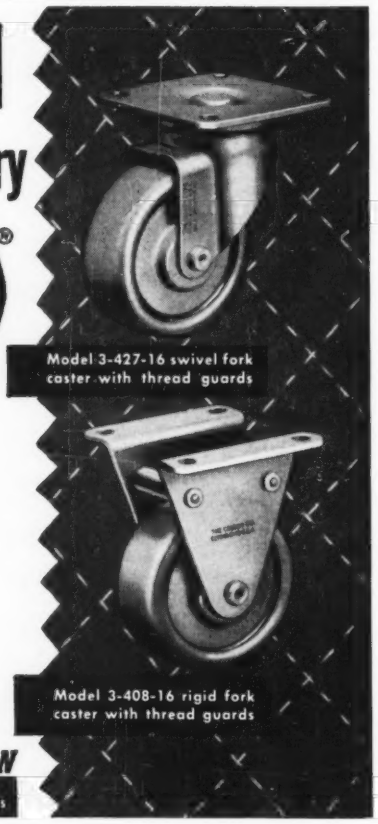
BRUSH ELECTRONICS COMPANY

INDUSTRIAL AND RESEARCH INSTRUMENTS
PIEZO-ELECTRIC MATERIALS • ACOUSTIC DEVICES
MAGNETIC RECORDING EQUIPMENT
ULTRASONIC EQUIPMENT

BRUSH ELECTRONICS

formerly The Brush Development Co. Brush Electronics Company is an operating unit of Clevite Corporation.

Designed by the Textile Industry built by colson®



Our friends in the Textile Industry worked with us in developing casters and materials-handling trucks to meet their needs—*exactly*. The result is a line of casters, hand trucks, platform trucks, box trucks, and drum and barrel trucks that can add extra efficiency to any mill operation. COLSON Casters roll easily over all floors, swivel freely, are rust resistant. Many models have thread guards. Write us or consult the yellow pages for the COLSON office near you.

Write for free catalog—
"COLSON Trucks and Casters"

THE COLSON CORPORATION
ELYRIA, OHIO
CASTERS · LIFT-JACK SYSTEMS · INDUSTRIAL TRUCKS

HARRIS' HANDBOOK OF TEXTILE FIBERS, Harris Research Laboratories, Inc., 1246 Taylor St., N. W., Washington 11, D. C.; hard cover, 356 pages, $12.50.

This handbook is the result of an effort to compile and edit data of special importance to the research worker in textiles. Some of the tables and information are readily available elsewhere, such as a compilation of textile terms and tables of psychometric humidity, and are included for completeness. Also there are chapters on economic reference data and general production data.

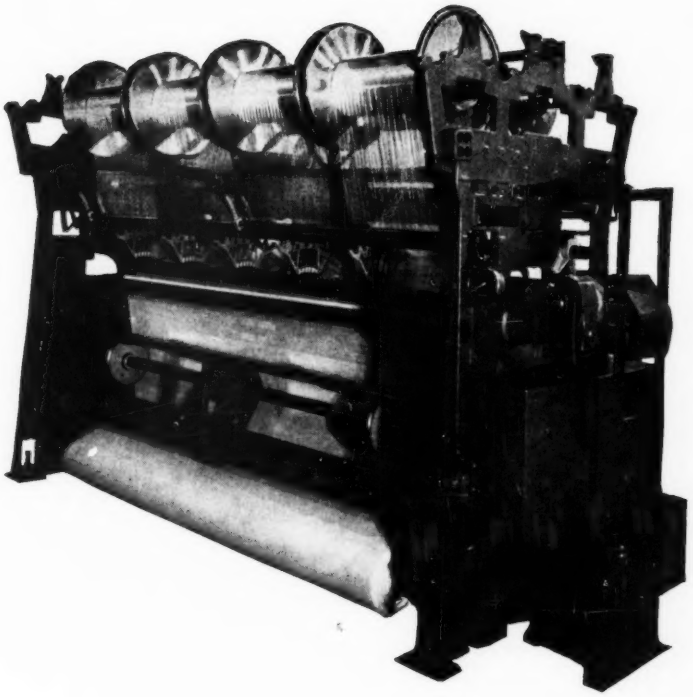
The main contribution of the handbook is to bring together data on chemical and physical properties and chemical compositions that are widely scattered through the literature. Two sections were contributed by outside authorities: a section on microscopy by C. W. Hock of Hercules Powder Co. and a section on X-ray diffraction by J. A. Howsman of American Viscose Corp. The handbook includes data on all fibers available at the publication date. A well-organized index lists references according to the fiber name with property references underneath.

ASTM STANDARDS ON TEXTILE MATERIALS (With Related Information); American Society for Testing Materials, 1916 Race St., Philadelphia 3, Pa.; paper, 698 pages, $5.50.

The October, 1954, edition of this ASTM compilation brings together in usable form the ASTM test methods, definitions and terms, and specifications prepared by Committee D-13 on Textile Materials.

Twenty-five of the test methods included in the older edition have been revised, and seven of the standards are new.

New tentative methods of test are included for: determination of build-up and spread of glass yarn as wrap or braid over electrical conductors; elastic fabrics; wool content of raw wool (commercial scale); tuft bind of pile floor coverings; yarn distortion in woven fabrics; length of cotton fibers

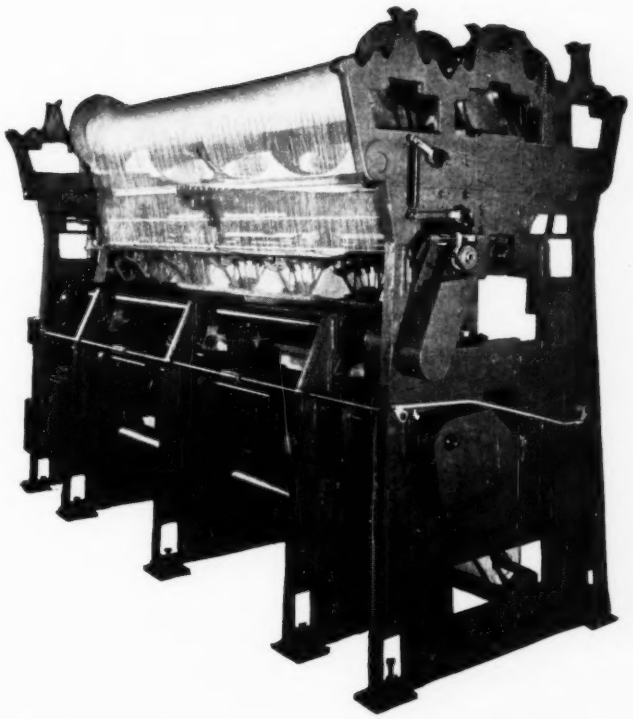


40 to 50% Faster!

NEW Model "E" KIDDE KNITTER

PRODUCTION speeds up to 500 courses with 2 guide bars... up to 400 courses with 4 guide bars can be maintained 24 hours a day with the new MODEL E KIDDE KNITTER. Consider what these new speeds will mean to your costs on elastic fabrics, tulle, shoe fabrics, etc.... what they will mean to your profits too!

A completely new machine, the MODEL E is equipped with high speed cams, totally enclosed and running in oil... double the usual number of guide bar rocker cams... pattern wheels or chain drum... quick stop... and practically non-breakable needles—all features never found in a Raschel machine before. Investigate how this machine can slash your knitting costs! Write for information.



Kidde Knitter

The word "Kidde" is the trademark of Walter Kidde & Company, Inc., and its affiliated companies.

KIDDE MANUFACTURING CO., INC. • BLOOMFIELD, NEW JERSEY

One Mill Group Bought 4000 ROTARY UNIONS*

Type S
ROTARY UNION

After making comparative tests, one mill group standardized on ROTARY UNIONS and purchased 4000 . . . 18 months ago. These 4000 ROTARY UNIONS have since been operating 16 to 24 hours a day . . . without adjustments or mechanical maintenance and with practically no replacements.

Other mills report similar results. Service of three years without a single work stoppage is not unusual. No other revolving steam joint outperforms the ROTARY UNION.

For more information, contact our nearest office or write Dept. 12W for our catalog. Or install a set on one of your slashers, dry cans, calenders, embossers, or printing machines and make your own comparisons. *Now . . . new design permits field repair.*

"Where *Good Connections* Count" ®

* Trade Name—Patented

PERFECTING SERVICE CO.
332 Atando Ave. Charlotte, N. C.
(Home Office & Factory)

Chicago
Cleveland
Providence
New York
Montreal
Toronto

NON-FLUID OIL
TRADE MARK REGISTERED

SPINNING PROTECTION . . . BY THE POUND

Rotted roll covers and stained yarn mean one of two things: either you have used or are using ordinary oils—cheap to buy but expensive to use! Why tolerate these costly evils—when most other mills are avoiding them through use of NON-FLUID OIL—which stays in roll necks of spinning frames, lubricating dependably, and does not creep out. Further—by outlasting ordinary oils 3 to 5 times—in spinning as in all other mill operations—NON-FLUID OIL saves on oil and application cost.

Yes, leak-proof, creep-proof NON-FLUID OIL is used by 7 out of 10 leading mills. That percentage means that NON-FLUID OIL is approved by more textile men—in more mills—than any other lubricant.

Write now for Bulletin T-13-TW and a free testing sample of NON-FLUID OIL.

NEW YORK & NEW JERSEY LUBRICANT COMPANY
292 Madison Ave., New York 17, N. Y. Works: Newark, N. J.

SOUTHERN DISTRICT MANAGER: Lewis W. Thomason, Jr., Charlotte, N. C.
WAREHOUSES: Birmingham, Ala., Greenville, S. C., Atlanta, Ga., Chicago, Ill., Columbus, Ga., Springfield, Mass., Charlotte, N. C., Detroit, Mich., Greensboro, N. C., St. Louis, Mo., Providence, R. I.

NON-FLUID OIL is not the name of a general class of lubricants, but is a specific product of our manufacture. So-called grease imitations of NON-FLUID OIL often prove dangerous and costly to use.

by Fibrograph; Micronaire fineness of cotton fibers.

Proposed methods of test include: recommended practice for calculating number of tests to be specified in determining average quality of a textile material; evaluation of properties related to the hand of soft-finished woven fabrics; fire-retardant properties of treated felt; fineness of cotton fibers by Arealometer method; identification of finishes on textiles; recovery of textile fabrics from creasing using the roller pressure apparatus; and predicting differential dyeing behavior of cotton.

THE ATTACK ON BIG BUSINESS, by J. D. Glover; Div. of Research, Graduate School of Business Administration, Harvard University, Boston, cloth, $4.

Why, Professor Glover (of the Harvard School of Business Administration) asks, will the same man who unfailingly buys big-name brands turn the next minute and curse Big Business?

The main purpose of the book is to help business men understand what the criticisms are and to point out what can be done to reduce unmerited public hostility. Professor Glover finds most of the criticism too self-contradictory and implausible to be worth rebuttal; but he admits that Big Business is not perfect and that some of the criticisms, if properly understood, can be helpful.

Economic, political, social, and ethical criticisms of Big Business are neatly classified and entertainingly discussed.

Jerked-In Filling

CONTINUED FROM PAGE 107

2. Strings from the thread holder dropped or thrown by the batteryhand into the path of the shuttle

3. Loose ends of yarn left on the filling bobbin by the batteryhand

4. Pieces of yarn blow into the shuttle boxes or shed when compressed air is used to clean the loom

5. Strands of yarn dropped by the weaver when he matches filling

6. Bunches of yarn left on the loom when a thin place, mispick, or other defect is picked out

How To Prevent Jerk-Ins

Close inspection of cloth as it is woven will prevent most jerk-ins. The weaver should inspect the cloth constantly both at the fell of the cloth and at the roll of cloth. An occasional inspection of the end of the roll of cloth will disclose some types of jerk-ins because a loop will project

EAGLE BRAND CORN STARCH IS SUPERIOR TO ROOT STARCHES IN THESE RESPECTS:

- **Greater Uniformity**
- **Always Available**
- **Has Greater Viscosity Stability**
- **Has Lower Moisture Content**

Get more uniform sizing of combed yarns with EAGLE® corn starch
brand

"A complete line of starches from the world's prime producer of starch products."

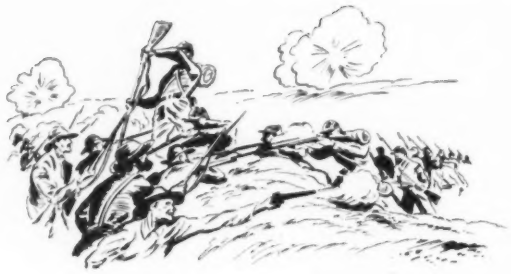
Today's slasher operation requires extremes in fluidities. Eagle Brand Corn Starch meets the most exacting of these demands. Eagle Starch is an acid-converted, thin boiling starch, available in all fluidities. Since all viscosities are obtainable, Eagle Brand Corn Starch enables the mill to meet its concentration needs precisely. Eagle Starch makes a smoother, tougher size that contributes to higher loom efficiency.

• ***Technical*** mill and laboratory assistance is yours without obligation. We welcome an opportunity to help you solve your specific production problems. Write us.

EAGLE CORN STARCH

CORN PRODUCTS REFINING COMPANY · 17 BATTERY PLACE, NEW YORK 4, N. Y.

1854
R.D.COLE
Centennial
1954

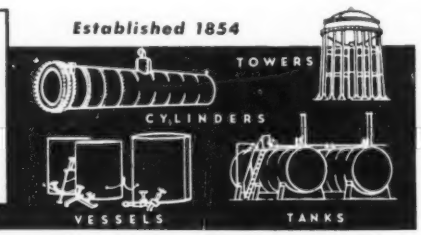


TEN YEARS before the BATTLE OF ATLANTA

In 1854, ten years before the Battle of Atlanta, we started out as a small iron-works. Many communities and many mills secured their first elevated tanks for water supply from us. For the privilege of celebrating our Centennial, we express our appreciation for the friendship of four generations of customers, and the loyalty of four generations of workers.

R.D. COLE
MANUFACTURING CO.
NEWNAN, GA.

Established 1854

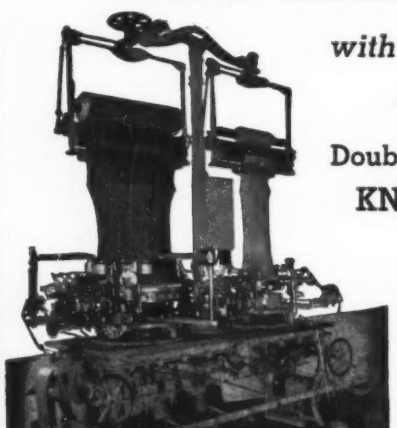


ACTUAL MILL OPERATIONS SHOW

BIG WEEKLY SAVING PER OPERATOR

with installation of NEW

TOMPKINS D-2
Double Head Spring Needle
KNITTING MACHINE



New stop motions and fu...ning wheels provide the profitable answer to reducing cloth imperfections and needle breakage—imperfections are caught before they get into the cloth! Actual installations are showing remarkable savings in knitting various types of material. SOME MILLS CLAIM THEY HAVE CUT PRODUCTION COSTS IN HALF . . . OTHERS REPORT SAVINGS UP TO $600.00 PER WEEK PER OPERATOR, over old machines. All this PLUS AN IMPROVEMENT IN FABRIC QUALITY!

WRITE OR PHONE FOR COMPLETE INFORMATION

LET US SHOW YOU THIS MONEY-MAKING MACHINE IN PRODUCTION

OTHER TOMPKINS MACHINES
BEEF BAG KNITTER | HOCKEY CAP KNITTER | MULTIPLE FEED KNITTER

TOMPKINS BROS. CO. • Syracuse 4, N. Y.

outside the selvage. Most jerk-ins are made on the right-hand or battery end of the loom, but some occur at the opposite selvage.

When a jerk-in is found in the cloth, the loom should be flagged immediately so that the loomfixer can fix the loom.

The loomfixer should inspect the feelers and thread cutters on every loom on his section at least once each day. When he does any repair work on the battery, shuttle, shuttle boxes, or thread cutters, he should check the setting and timing of the Stafford thread cutter. The adjustment of a box plate, installing of a new shuttle, addition of a new picker, or any of a dozen adjustments of related loom parts can affect the setting or timing of this thread cutter.

Some types of jerk-ins can be pulled out of the cloth without doing serious damage. However, most jerk-ins are major defects; and although they do not weaken the cloth, they leave unsightly blemishes when the cloth is finished.

The absence of jerked-in filling is a good indication of good weaving practices in general.

Card-Room Overseer

CONTINUED FROM PAGE 123

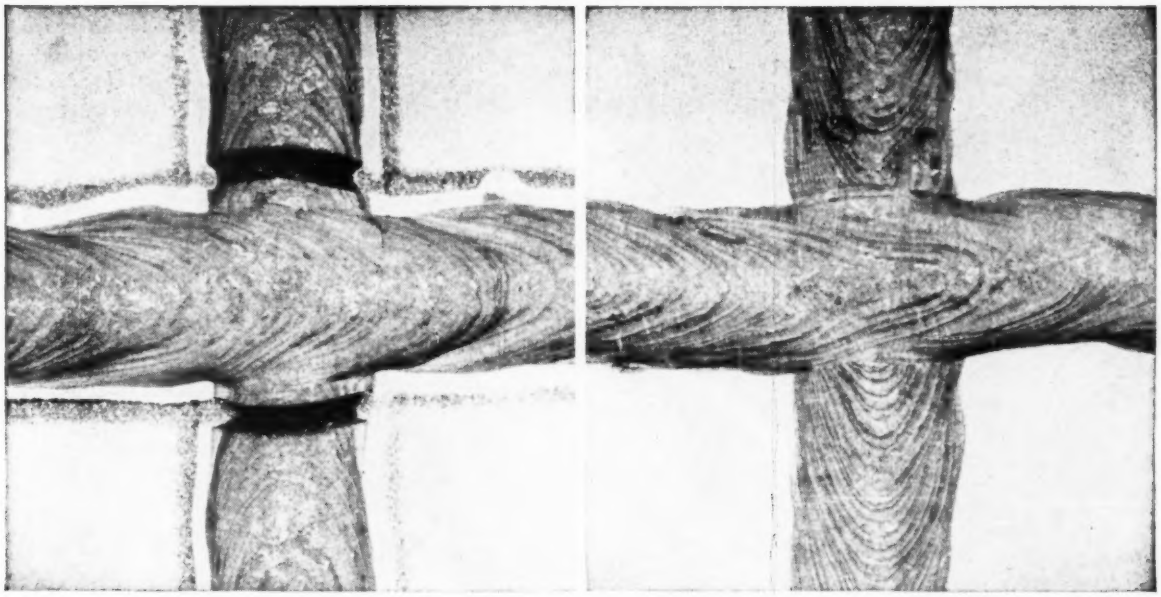
without the introduction of irregularities or other faults. The multiplicity of drafting systems, machine designs, speeds, conditions of machines, and materials processed make it almost impossible to suggest items that need checking most frequently. It should be mentioned, however, that adequate cleaning, lubrication, scouring, and general maintenance are just as essential as with other spinning machines.

No matter what the material or the machine design, the tension draft (the draft between the front rolls and the surface of the bobbin) must remain constant throughout the build from bare to full bobbin. Every frame producing similar material should have the same tension draft; otherwise, the advantage of using the same draft gear on every frame can be destroyed.

Find Best Drafts for Roving

The optimum draft can vary with the material processed and the condition of the flyers, but it is reasonable to expect that the most uniform roving will be produced when this draft is low; but at the same time, the roving must be wound tight enough to form a good package. The overseer must find out what draft suits his particular circumstances; 1.05 to 1.08 is usually considered adequate with controlled humidity.

A quick and practical method some-



Two welded samples were tested for three 4-hour periods in a solution of 10% nitric and 3% hydrofluoric acid at 176 F. Specimen at left showing acid attack alongside welds is regular Type 304; specimen at right, free from acid attack, is Armco 18-8 ELC (Type 304L).

PROTECT WELDED STAINLESS EQUIPMENT AT LESS COST WITH ARMCO ELC

You needn't take chances on carbide precipitation adjacent to welds in textile equipment. Armco offers two extra-low carbon (ELC) stainless steel grades that are completely satisfactory for service in welded equipment up to 800 F. They are:

ARMCO 18-8 ELC (TYPE 304L)
ARMCO 18-12 MO ELC (TYPE 316L)

THEY SAVE YOU MONEY

Armco 18-8 ELC costs less than the columbium- or titanium-stabilized Types 347 and 321, yet insures the same freedom from intergranular corrosion in the recommended temperature range as the more expensive types. The Armco ELC types are produced in sheets, strip, plates, bars and wire.

"EXTRA-LOW-CARBON" DOES IT

Armco ELC grades contain a *maximum of only 0.03% carbon.* This small amount of carbon is not enough to cause harmful carbide precipitation adjacent to welds during welding. Therefore, stabilizing elements are not needed, for either shop- or field-welding.

GET COMPLETE INFORMATION

Let us send you a copy of the article, "How to Control Carbide Precipitation in Welding Stainless Steels." This is the latest and one of the most concise articles ever written on the subject. For more information on the ELC grades, get the booklet, "Armco's ELC Stainless Steels." Just check what you want on the coupon and mail it to us.

ARMCO STEEL CORPORATION
4604 Curtis Street, Middletown, Ohio

☐ Send me a copy of the article, "How to Control Carbide Precipitation in Welding Stainless Steels"
☐ Send me a copy of the booklet, "Armco's ELC Stainless Steels"

NAME_____
FIRM_____
STREET_____
CITY_____ ZONE____ STATE_____

ARMCO STEEL CORPORATION

4604 CURTIS STREET, MIDDLETOWN, OHIO

ARMCO®

SHEFFIELD STEEL • ARMCO DRAINAGE & METAL PRODUCTS, INC. • THE ARMCO INTERNATIONAL CORPORATION

Call MILTON for dependable BEAMS

Light Metal featuring continuous welded construction

NYLON & RUBBER YARN BEAMS

FORGED HEADS
RIGID BARRELS

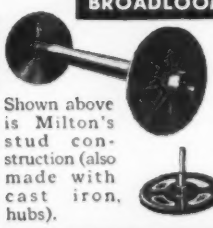
Forged heat-treated aluminum alloy heads and extra heavy wall barrels designed to withstand extreme pressures of monofilament; fine denier; low-turn nylon; and rubber yarns. 13¾" and 21" diameter heads.

SECTION BEAMS

Adaptable to all makes of warpers. Cast aluminum alloy heads and extruded aluminum barrels cannot shrink, swell, splinter or distort.

STEEL BARREL
WARP BEAMS
for BROAD, NARROW FABRIC, RIBBON, VELVET AND CARPET LOOMS

BROADLOOM BEAMS



for C & K and Draper Looms

Shown above is Milton's stud construction (also made with cast iron, hubs).

RIBBON LOOM BEAMS

Adjustable head with fixed shaft, or fixed head with removable shaft.

WRITE FOR FREE BULLETINS

MILTON MACHINE WORKS
INCORPORATED
DESIGNERS • ENGINEERS • MANUFACTURERS
MILTON • PENNA.

times used to find the tension draft:

1. Mark the roving as it leaves the presser.
2. Run the frame 100 to 200 revolutions of the front roll with a counter on the roll to count the revolutions.
3. Stop the frame and mark the roving again in the same position relative to the presser.
4. Calculate the length delivered by the front roll.
5. Measure the length of roving between the marks.
6. Then:

$$\text{tension draft} = \frac{\text{length wound on bobbins}}{\text{length delivered by rolls}}$$

With the correct tension gear, the tension draft remains constant during the formation of the bobbin. The accuracy of the gear may be checked by sizing roving at full bobbin and almost empty bobbin. But because of the variation found on almost every bobbin, a number of tests are necessary to obtain reliable information.

A quicker and more-accurate method is to compare the coils per inch at the full and empty bobbin; the coils per inch are constant only when the correct tension gear is used. To make this test, make a mark about 6 ins. long on the first and last layers of roving on bobbins from the same frame. Then count the number of revolutions needed to unwind the marked length from each bobbin.

If the revolutions of the full bobbin are less than the revolutions of the almost-empty bobbin, the rovings are stretched because the bobbin rail, and thus the bobbin, have not reduced in speed enough to compensate for the increased diameter.

Ends-Down Survey

CONTINUED FROM PAGE 125

ers were being strained and stretched without actually breaking. Dull skewers were increasing the work of the spinner and making imperfect yarn.

Recommendations: A full set of new repointed skewers should be used to replace all skewers on each frame in turn until the whole room is covered. The old skewers can be reconditioned and used on the next frame. This method of skewer replacement should be repeated about once a year. Such a system is much better than the haphazard replacement of a dull skewer here and there at random.

Bad Roving

Recommendations were that patrolling spinners should inspect the roving in their creels and remove any bobbins that show imperfections of any kind. Experience in other mills

Want To Cut Operating Cost?

The F. A. Lazenby Company will help you cut operating costs. Our winders, made to your exact specifications, will assure you of getting maximum yardage and a higher production rate from Cop, Butt or Bobbin winders.

•

Just send us a small supply of your yarn and we will wind and return with Test Wind Report and Catalog.

•

The F. A. LAZENBY Co.
3106 ELM AVE.
Baltimore 11, Maryland

LIFTS DIRT ... HOLDS IT OFF...
CINDET
100% ACTIVE 100% SAFE!

NEW LIQUID SYNTHETIC DETERGENT

CINDET can be used *in hard or soft water* for cleaning needs throughout your school or college buildings. It LOOSENS dirt quickly, LIFTING IT AWAY AND HOLDING IT IN SUSPENSION in a mass of creamy suds. Removes stubborn stains, rubber marks.

CINDET works fast, dries quickly, can be used safely on *anything water itself won't harm.*

Write for Dolge literature on CINDET, and see your DOLGE SERVICE MAN.

FOR FREE SANITARY SURVEY OF YOUR BUILDINGS, CONSULT YOUR DOLGE SERVICE MAN

Dependable DOLGE
WESTPORT, CONNECTICUT

A
LONG LIFE...
AND A
FAST
ONE...

FOR
WOOL
AND
NYLON

SUPRALANS

for

- **unvarying reproducibility of shades**
- **good to very good light and wet fastness**
- **shorter dyeing time**

The simplicity of the neutral dyeing method of application yielding level fast shades without the aid of a leveling agent now permits wool dyers to achieve results in quality which were not possible prior to the introduction of SUPRALANS.

Better tensile strength, preservation of fibre texture, equal exhaustion properties and uniformity of shade on various types of wool are assured factors which can be assumed with SUPRALANS.

A few minutes conversation with GDC technical and sales representatives will serve to convincingly explain the exceptional dyeing characteristics of SUPRALANS.

From Research to Reality

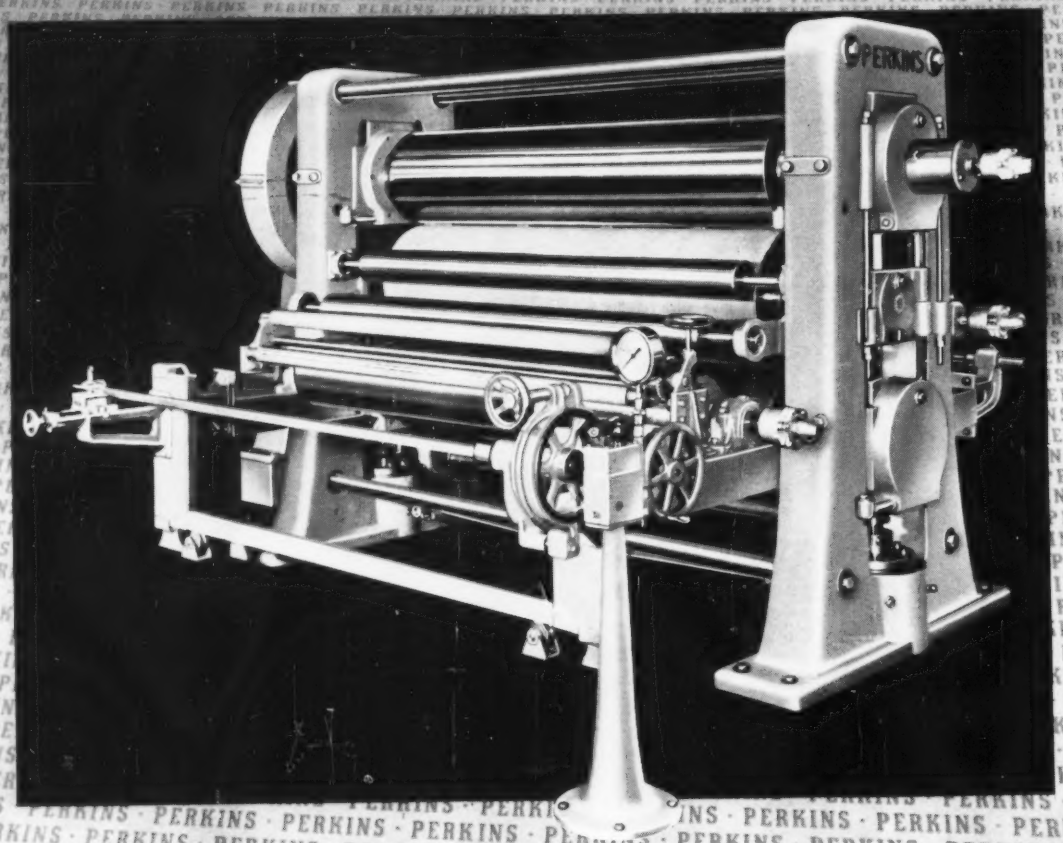
gdc gaf

GENERAL DYESTUFF COMPANY

A SALES DIVISION OF GENERAL ANILINE & FILM CORPORATION

435 HUDSON STREET • NEW YORK 14, NEW YORK

BOSTON • CHARLOTTE • CHATTANOOGA • CHICAGO • LOS ANGELES • NEW YORK • PHILADELPHIA • PORTLAND, ORE. • PROVIDENCE • SAN FRANCISCO



PERKINS POINTS WITH PRIDE

to this modern three-roll 83" face 60-ton Hydraulic Rolling Calender. Top and bottom rolls, chilled iron. Intermediate roll, cotton. This high production calender is equipped with variable speed drive, pre-heating drum, cooling drum, three-bar tension group and a let-off which is adjustable laterally and horizontally.

B. F. PERKINS & SON, Inc.

HOLYOKE, MASS., U.S.A.

LARGEST MANUFACTURERS OF CALENDER ROLLS IN THE WORLD

has shown that this method, when followed faithfully, actually reduces the spinners' work and improves the yarn being spun.

The imperfect roving picked out by the spinners is collected, counted, and returned to the card room for repairing. The record of this bad roving acts as a check on the quality of roving delivered from the card room and aids in reducing the imperfections. Chalk marks made by roving-frame tenders on imperfect roving identify the tender making it; a follow-up will reduce the amount of bad roving and also reduce the end breakage in spinning.

Bad Piecing Up

A check on the yarn going through to the winders and spoolers showed a lot of piecings failed to pass through the slub catchers or snick plates. From the thickness of these piecings it was evident that some spinners were using the dab method of piecing up broken ends. The dab method is a quick way to piece up, but it leaves a thick bunch that breaks in the following process or remains as a thick place in the finished product.

Actual tests showed that a twisted-in ½-in. splice makes the neatest and strongest piecing. This ½-in. overlap rarely breaks in the following process and is not noticeable in the finished product.

Recommendations: A competent spinner should teach all learners, and other spinners if necessary, the proper way to make a spliced piecing. The proper instruction of spinners in the correct method of piecing up is important and should be given strict and constant attention. In many spinning rooms it is usual to consider a piecing satisfactory if the end stays up after piecing; however, these imperfect piecings can cause a lot of trouble later.

Waste and Lint

The mill's schedule for picking top clearers was found effective in keeping the clearer waste from getting into the work. A closer check on the regular execution of these schedules was recommended.

Lint on the travelers was found to be caused by the lack of a definite setting of the cleaner pins to the travelers. Recommendation: A gauge should be made and used to set all cleaner pins $\frac{1}{16}$ in. from the traveler. The pin should have a slight slant in the direction of traveler rotation. This slant of the pin is found to help keep the pin free from excessive waste accumulations.

Incorrect Traveler

This mill was using a 3-0 traveler on the 28s warp yarn. A trial was made with a 2-0 traveler. With this traveler, the bobbin was firmer, balloon control was better, and tension was not excessive. It was recommended that the travelers be changed every 144 working hours.

Fluctuating Humidity

The variations in relative humidity in this spinning room were found to be a probable cause for poor-running work at times. Hygrometer readings taken over a few days showed a range of 41 to 52% relative humidity.

After the controls on the humidifying units were checked and corrected, the humidity variations were reduced. A relative humidity of 55 to 60% was recommended.

Pointers for Supervisors

CONTINUED FROM PAGE 127

sure on employees for wanting to exercise or having exercised the basic privilege of taking his problems to his supervisor and appealing higher, if necessary.

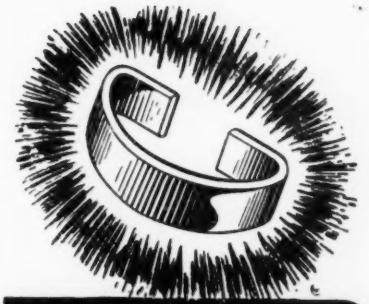
4. Bring the immediate supervisor into the picture.

Let's assume that your job is general overseer of a large weave room. You have other overseers under you and second hands as well. A weaver comes to you directly, obviously concerned about the condition of her job. Under the open-door policy, you hear her out, sympathize with her point of view, and finally agree with her that some changes are in order.

If you have the changes put into effect without any consultation with the supervisor immediately in charge of the weaver concerned, you're asking for trouble. That supervisor is going to be resentful, and he won't cooperate with any policy that he feels undermines his authority and weakens his standing with his employees.

Think how you would feel if your own superior reversed your decisions without consulting you. Be sure you don't make the same mistake with the supervisors who are under you. Be sure to bring them into the picture whenever their employees are involved. Certainly, listen to what the employee has to say. That's your obligation. But find out, too, if the employee has discussed the problem with his immediate supervisor. If not, suggest that as the first step.

If the employee has discussed the problem with his immediate supervisor, then you may want to call that supervisor in to take part in the discussion; or, depending on the circumstances, it may be better to review the facts with the immediate supervisor privately. But whatever approach is



DARY
Ring Travelers

FIFTY YEARS
IS A
LONG TIME

For fifty years and more, Dary ring travelers have enjoyed a sound reputation in the textile trade. We at Dary are proud to have maintained that reputation so consistently—because half a century is a long, long time.

Our experience is yours to command. Consult your friendly Dary representative!

Always specify
DARY Ring Travelers

THE DARY RING TRAVELER CO.
TAUNTON, MASSACHUSETTS
LINDSEY I. PHILLIPS, TREASURER, TAUNTON, MASS.
JOHN H. O'NEILL, BOX 720, ATLANTA, GA.
JAMES H. CARVER, BOX 22, RUTHERFORDTON, N. C.
CRAWFORD "JACK" RHYMER, BOX 2261, GREENVILLE, S.C.

THE
Number One Name
In Socket Screws & Keys
ALLEN

Don't take it for granted that any hex socket screw is an Allen. Your Allen Distributor *alone* can offer you

1. **ALLENPOINT SET SCREWS** with the new smaller point — proved by impartial laboratory tests to have greater locking power and vibration resistance, plus uniformly high shaft holding power, compared with conventional cup point screws and those with serrated or angled points.
2. **LEADER POINT CAP SCREWS,** for substantially reduced chance of thread injury or damage to threaded holes.
3. **ALLENOY STEEL** — with the strength and temper to permit the use of smaller sizes, and make button head and flat head screws practical despite necessarily shallower sockets.
4. **ALLEN PROGRESSIVE PRESSUR-FORMING,** producing contoured uncut fiber flow, from head to point. A process originated and perfected by Allen.

Be sure to get Allens in the black and silver striped box, sold only through leading Industrial Distributors. Write us for technical information.

best, make sure that the immediate supervisor is not overlooked. You should know his side of the story, what steps he may already have taken to correct a troublesome situation, and what plans he has to prevent future recurrences.

If careful investigation convinces you that a reversal or modification of his decision is necessary, try to get him to understand your reasoning and go along with your decision. Only by bringing him into the picture and keeping him informed can you keep him a supporter of management's open-door policy.

The open-door policy can be an effective instrument promoting good employee relations. As a mere statement of intentions, the policy is virtually worthless. Made to work because it is believed in by management, from first-line supervisors to president, and because it is understood by employees, it can serve you well.

New Opening Equipment

CONTINUED FROM PAGE 87

If the Axi-Feed-Axi-Flo combination does such a good opening and cleaning job, there's a good chance that the mill can use more LM cotton in its mix and maintain yarn quality. Now, for example, the mix is about 81% SLM and 19% LM. Staple length is 62% 1⅛ in. and 38% 1⅜ in. The mill blends for fineness and aims at 4.5 on the Micronaire.

If the amount of LM stock can be increased to 25% and if only half of this saving can be realized because waste will be higher, the saving would be about $\frac{1}{10}$¢ per lb. (based on a spread of 2.90¢ between SLM and LM).

Since this mill uses 5-million lbs. of cotton a year in each opening line, the potential saving on the filling line is enough to pay for the equipment in two years at the outside, not considering taxes. (Axi-Flo costs about $2,500, Axi-Feed about $500.)

Engineering Tidbits

There are just four bearings on Axi-Flo: two on each end of the spiked cylinders. The mill plans to lubricate them every six months.

The window in the machine is more than dressing: the foreman or operator can see at a glance how the machine is operating.

Horsepower requirements are low: each Axi-Flo has a 3-hp. Westinghouse Lintfree Type CS induction motor. The line taken out used 27.5 hp. vs. 16 hp. for the new one. The power saving, at $25 per shift per horsepower per year is, $837.50 annually.

Heat-Setting Nylon

CONTINUED FROM PAGE 83

rent to the units is automatically cut off when the frame stops.

The effect of residual heat from the unit is further lessened by a blast of compressed air directed across the fabric during stops. Reversal of the air flow drops the unit back into operating position.

Vapors Are Removed

A further refinement in the installation is a ventilating system that draws out distilled vapors that rise from the cloth during heat setting. These vapors come from the traces of oils, detergents, and dye assistants that do not rinse out. Before the heat-setting compartment was ventilated, these vapors condensed on the roof of the chamber, dropped back on the cloth, and caused spots.

After the fabric leaves the heat-setting compartment, it is cooled by a large volume of low-pressure air supplied by a Buffalo centrifugal fan. This cooling helps condition the fabric as it is rolled up at the end of the tenter frame.

These improvements in basic equipment enable the mill to produce better fabric with far less damage than was possible before.

Alabama TOE Loomfixing

CONTINUED FROM PAGE 88

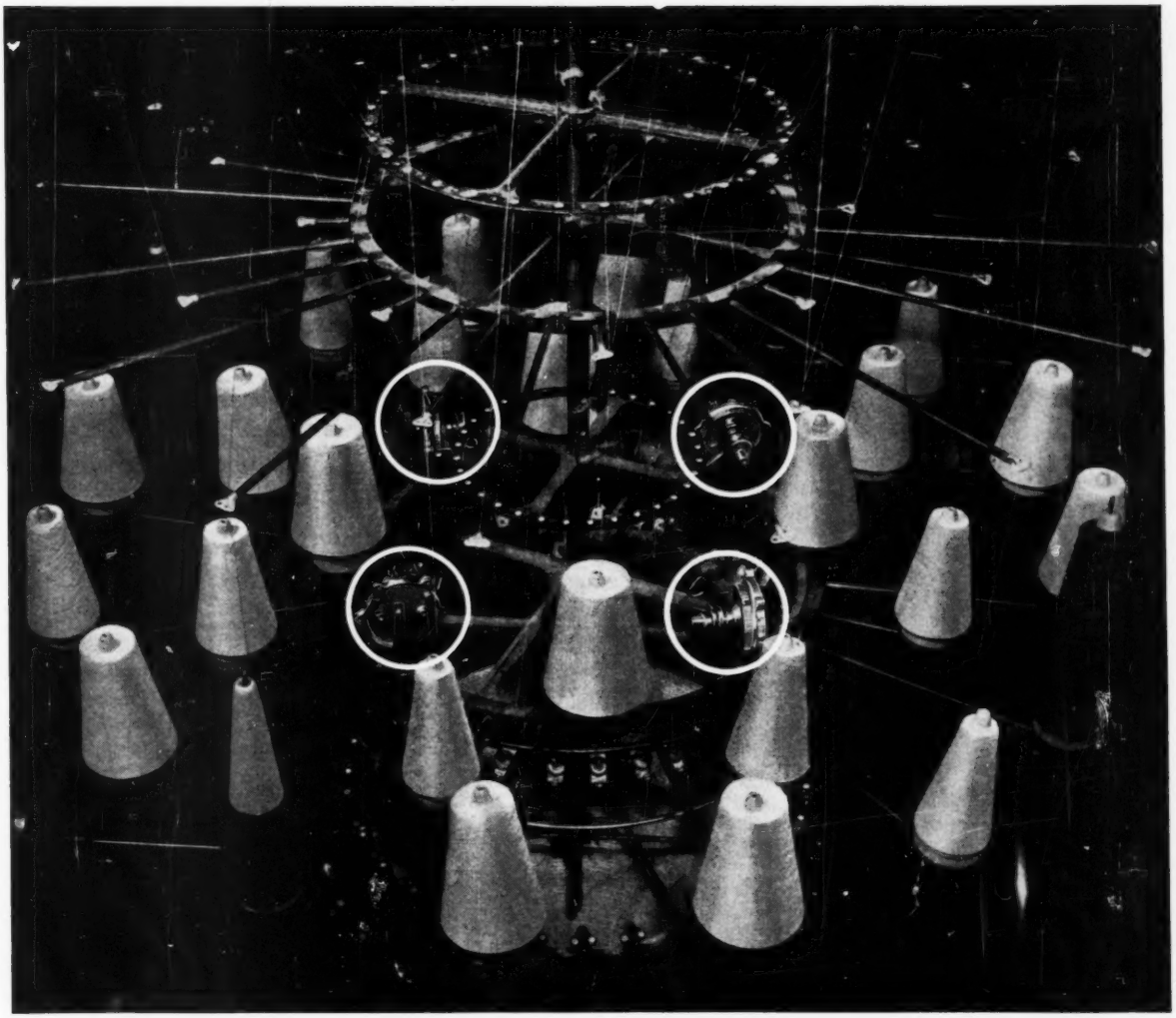
"Each supervisor checks half his looms daily for bad cloth and for looms out of adjustment. Supervisors also check all looms with new shuttles."

Fix Looms During Stoppages

Mill E—"Our loomfixers go over our looms each time a new shuttle is put in. The average shuttle life is three months. When a new shuttle is put in on one shift, the second hand of the following shift checks the loom to see if the loomfixer missed anything that should be fixed. If the second hand finds anything that needs fixing, he gives the loomfixer a ticket showing the work he wants done. The second hand always checks back a second time to be sure the loom has been fixed before he okays the shuttle-checking card.

"When we have a loom breakdown, the loomfixer on duty starts tearing the loom down; and if he doesn't get the loom running, the fixer on the next shift finishes the job.

"We have been operating under



How rubber yarn is tension-controlled at the Steven Knitting Mills

The Steven Knitting Mills, Inc., of 564 Broadway, New York City, are manufacturers of elastic cloth for outerwear, and they control tension of rubber yarns on their various types of circular knitters with Kidde Standard Tension Compensators. Each of the four rubber ends (the dark cones in the picture) feeds into a Kidde Standard Tension Compensator, where tension is controlled *surely* and *accurately*.

By using Kidde Standard Compensators as tensioning devices for the rubber ends, Steven Knitting Mills, Inc. report the following:

Fabric width is now consistent, puckers in the cloth due to tension variations in the elastic yarns have been eliminated, and the general appearance of the cloth has been greatly improved.

For tensioning rubber yarns, Kidde Standard Tension Compensators will work well with any type of latch needle machine or spring-beard needle machine. They'll help you turn out a better elastic fabric at *less* cost!

More than 500 leading textile mills have put Kidde Compensators to work solving their tension problems. For more information on how Kidde Compensators can help *you*, write Kidde today.

Kidde (K Kidde)

The word 'Kidde' and the Kidde seal are trademarks of Walter Kidde & Company, Inc.

Walter Kidde & Company, Inc.
1291 Main Street, Belleville 9, New Jersey

Test moisture content *in* 3 *seconds* with Moisture Register!

Model PD-1

Model K-2

You get *accurate*, almost instant, moisture content readings in **wool, cotton, rayon, nylon—practically any type of textile**—when you use Moisture Register Model PD-1, or Model K-2.

Either model gives you "on-the-spot" readings with guaranteed accuracy. They're simple to operate, require no technical knowledge or skill, weigh only 6 pounds, easily portable.

Model PD-1 tests textiles in loose or compressed forms with 3" penetration. Model K-2 tests cones, beams, rolls and similar forms.

ONE YEAR GUARANTEE!

Use one of these instruments **FREE** for 10 days. No obligation! Prove for yourself that Moisture Register will help you maintain higher standards, iron out production headaches, add to your reputation as a manufacturer of quality products. Fill out coupon, mail today!

ELECTRONIC MOISTURE REGISTER

MOISTURE REGISTER CO.
1510 W. Chestnut St.,
Dpt. TW, Alhambra, Calif

☐ Please send me, *without obligation!* for 10-day free trial,
Model .....for use on.....
Enclosed find purchase order to cover trial period.

NAME _____
TITLE _____
COMPANY _____
STREET _____
CITY _____
STATE _____

☐ Please send me information on Moisture Register for use on .....

this system for 12 years, and all our looms are in good condition."

Mill F—"We take great care in putting in new shuttles. Before a loomfixer secures an order for a new shuttle, he carefully checks and fixes the following loom parts:

"1. Aligns the lay
"2. Sees that all leather is in good condition
"3. Takes the lost motion out of protector rods
"4. Times and sets the picking motion
"5. Takes all lost motion out of the rocker shaft
"6. Takes lost motion out of batery parts
"7. Sets the brakes properly

"When the fixer finishes this work, he leaves his straightedges on the loom and gets an order from his second hand for a new shuttle. The second hand goes immediately to the loom and checks to be sure all parts checked by the loomfixer are properly set before the new shuttle is installed."

Check Shuttle Boxing Daily

"All shuttles are taken from the shuttle boxes at week-end shutdowns. The weave-room overseer checks the condition of all shuttles once each month.

"At the beginning of each shift, the fixer checks all the looms on his section to be sure they're boxing properly before he starts fixing any looms that may be flagged.

"The looms on each section are divided equally among the fixers on three shifts, and each fixer follows this schedule on his third of the looms:

"Tuesday. Looms are checked to be sure they're picking correctly from both ends.

"Wednesday. Lay swords are checked for tightness.

"Thursday. (1) Polish shuttles with sandpaper and tallow; (2) see that the grooves in the shuttles are correct; (3) check the shuttle fur and bristles; (4) tighten the shuttle springs, and see that bobbins are held straight; (5) see that shuttle screws are not cutting reeds; (6) check the leather on binders, box fronts, and back box plates; (7) see that the pickers on both ends of the looms are in good condition; and (8) check the shuttle race and lay-end plates.

"Second hands on each shift check the looms after their loomfixers the day after the loomfixers made their checks."

Where Are Looms Overhauled?

The question of relative merits of overhauling looms on the weave-room floor as compared with removing them from the weave room and overhauling them in another area such as in the mill machine shop brought out several ideas in favor of each method. But, in short, the results are this: if the job calls for light overhauling, do the work in the weave room; if a major overhaul is needed, remove the looms to an isolated area.

Representative answers by mills are:

Mill A—"For a major overhaul, it is best to move the loom. Looms moved out of position can be steam-cleaned and painted. Overhaulers have more working space.

"For a minor overhaul, leaving the loom in position saves production time."

Mill B—"We have one overhauler to check and overhaul certain parts of looms as it becomes necessary. This system eliminates the need for moving looms out of the weave room for overhauling."

Mill C—"We overhaul looms in the weave room."

Mill D—"Our maintenance-department employees overhaul our looms in their position in the weave room. We like this method better than moving the looms. Disadvantages of moving looms for overhauls are: (1) moving causes an excess breakage of parts, (2) adjacent looms usually have to be moved, (3) looms require a setting-down period after they're put back in place, (4) additional working space in other areas is required to overhaul looms, and (5) traffic problems result from moving looms.

"Our experience shows that looms can be overhauled and put back in operation at lower costs if the work is done in the weave room."

Mill E—"We get a better job when our looms are removed from the weave room and overhauled in another area."

Alabama TOE Slashing

CONTINUED FROM PAGE 97

with a dipper that holds 4 oz. of size. The dipper has a ¼-in. hole in the base, and a full dipper should run empty in 15 to 20 secs. when the size viscosity is correct."

Mill B—"A typed formula is posted for the size-preparation man to use to insure the same mix in every batch of size cooked. A water meter gives the proper amount of water. Instruments control the air and steam constantly."

Mill C—"We control size viscosity by close measurement of size ingredients. We also keep close control of homogenizer pressure."

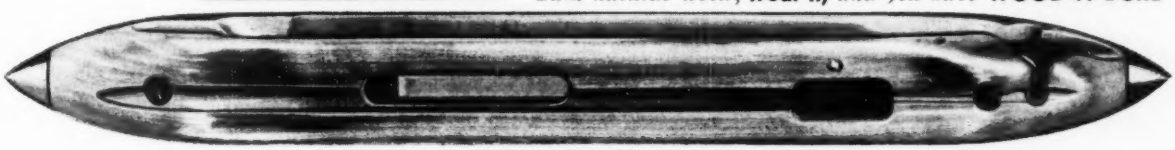
Mill D—"The best system we have found for controlling size viscosity is

You'll be hearing a lot about the amazing

US

WOOD · N · DURE PATENTED SHUTTLE *

Take natural wood, **treat it,** *and you have* **WOOD-N-DURE**



LISTEN TO THESE IMPRESSIVE ADVANTAGES:

It will better withstand **stresses, shocks and blows** • its "hardened" wearing surfaces afford greatly increased resistance to the wear and abrasion of the loom • when it **does** begin to wear, it wears smoothly and evenly • it resists splintering of the edges • it eliminates the necessity for any fiber-cladding • it is more impervious to atmospheric changes • the treatment leaves the center-section relatively soft to afford maximum holding power around the tip • the natural wood is **toughened,** while the resiliency is **increased!**

* A **WOOD-N-DURE** Shuttle will outlast an ordinary shuttle by **2** to **1** or better!

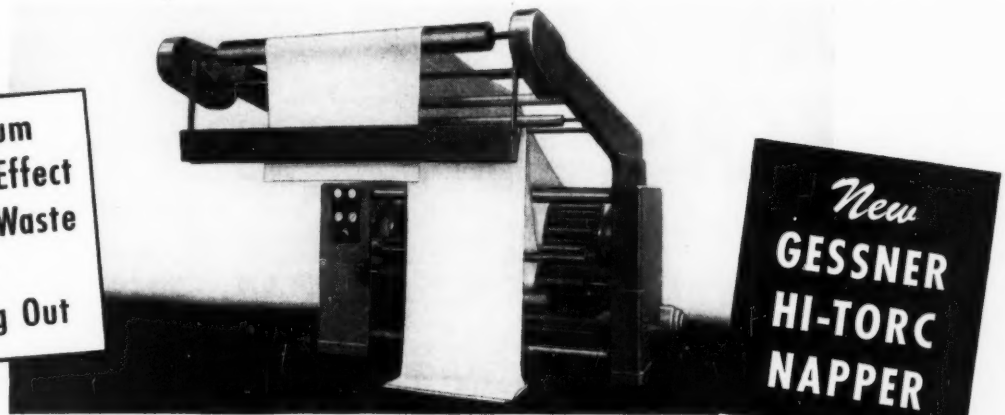
U S BOBBIN & SHUTTLE CO.

For quotations write to nearest address

Manufacturing Plants
LAWRENCE, MASS. • GREENVILLE, S. C.
General Sales Office LAWRENCE, MASS.
Southern Division Headquarters: 428 Birney St., GREENVILLE, S. C.
BIRMINGHAM: Young & Van Supply Co.
DALLAS: O. T. Daniel, Textile Supply Co. LOS ANGELES: E. G. Paules, 1762 W. Vernon Ave.

THE SEAL OF QUALITY AND SERVICE
US
SINCE 1857

Maximum Napping Effect Without Waste or Flocking Out



New **GESSNER HI-TORC NAPPER**

A new development in the napping field, Gessner's new Hi-Torc Napper has four unique features: precise napper-roll torque control, self-correcting speed controls, higher positive cloth inspeed, and infinitely variable cloth tension control. Application of high maximum napping energy gives you as much as four times the production.

Extreme accuracy of the controls and a simple, positive means of making settings, automatically maintained, assure greater efficiency. This new drive which controls the speed and the power exerted on the worker rolls allows a wider range of napping effects. Cloth tensions are controlled by the automatic slack take-up of the torque-activated, takeaway feed roll.

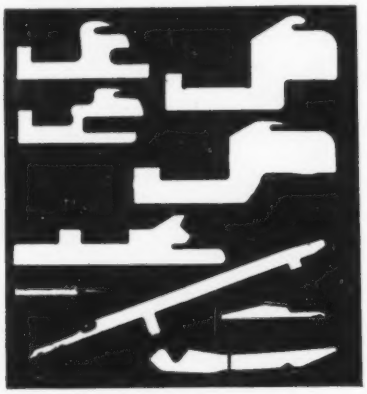
Know what you're doing when you nap. Ask for complete details.

DAVID GESSNER CO. WORCESTER MASSACHUSETTS

Canadian Representative: W. J. Westaway, Montreal, Quebec; Hamilton, Ont.

Gessner Improved Cloth Finishing Machines maintain a standard of performance to meet the exact requirements of your cloth finishing.

WANT TO KNIT FINER FABRICS AT LESS COST?



THE ANSWER:

IVES SINKERS AND SLIDERS

Ives products also include all shapes and gauges of Jacks and Transfer Points or Quills for circular hosiery machines and all gauges of Guides, Sinkers and Sley Points for Tricot and Raschel machines.

THE LOYALTY IVES
Est. 1872 COMPANY INC
NEW BRUNSWICK N J

to check the starch scales regularly and use water-level controls on size kettles."

Test and Correct Size Content

How often desize tests of slashed yarns are made and what is done to correct substandard conditions shown from the tests received considerable attention. Mill reports are:

Mill A—"Four to six specimens of sized yarn from different slashers are sent to the laboratory every 24 hrs. to be desized for moisture and size content. Soft yarn is tested every four weeks.

"Slasher settings are checked daily and changed when size tests indicate a change is necessary. Size formulas are also changed when the tests show it is necessary."

Mill B—"We make desize tests weekly from yarn on slashers.

"When desize tests are not within standards, we compare the tests with previous tests, recheck the test, and start checking items that can cause the deviation. Some of the items that cause variation are:

"1. New lots of starch and compounds

"2. Carelessness in weighing or measuring size ingredients

"3. Incorrect cooking or storage temperatures

"4. Variation in cooking cycles

"5. Various controls not operating properly

"6. Pressure-type squeeze rolls not set correctly

"7. The pneumatic-loading device set improperly

"8. Yarn-wound rolls not re-covered at the scheduled time."

Mill C—"We check the size content of our slashed yarn daily with a method taken from the Kinks department of a textile publication.

"A board is used to measure a section of unsized warp at the slasher, and the yarn is cut out without being slashed. Then the board is used to measure the same amount of slashed yarn. Both sections of yarn are weighed, and the difference in the weights is the size content of the yarn. The method is accurate within 1%."

The last question of the meeting concerned the use of revolving lease rods. Only two mills have had experience with these rods. Their reports are:

Mill A—"We have been experimenting with revolving lease rods but do not have any conclusive facts at this time."

Mill B—"We have tried revolving lease rods between the size box and dryer. When we split the yarn in sheets, it rolls in the dryer and causes break-outs at the lease rods."

Nitrile Latices

CONTINUED FROM PAGE 102

from these yarns. These runs substantiated the laboratory tests and proved that nitrile latex could be used successfully in regular cotton slashers for sizing blue-denim warp yarn and that fabrics could be woven on regular looms from these yarns to produce fabrics with improved abrasion resistance.

Finishing with nitrile polymer emulsion before the compressive-shrinkage process has increased abrasion resistance. For greatest permanence, the unfinished goods should have a minimum of size. Where a low amount of warp size has been applied, it is possible to pad the latex directly onto a loom-finished denim to provide a finish with good permanency to laundering.

Many fabrics require finishes for improving crockfastness. Certain classes of dyes, particularly naphthols and pigment dyes, tend to crock, especially if irregularities existed in the dyeing process. Such goods padded with a nitrile-latex bath of approximately 1 to 3% lose their tendency to crock objectionably. This treatment can also be used to improve washfastness.

Nitrile Latex and Dyes

Another interesting property of nitrile latex is its compatibility with dyes and its lack of interference with regular dyeing procedures. The nitrile polymer is receptive to acetate, vat, and direct dyes.

Recently, nitrile latex has been used for modifying urea- and melamine-formaldehyde resin finishes to increase the tear strength and abrasion resistance of the treated fabrics. By replacing about 70% of the formaldehyde resin with nitrile-latex polymer, the finisher can attain wrinkle recovery with only a slight loss in tear strength and abrasion resistance.

Dyeing Dacron Fibers

CONTINUED FROM PAGE 101

Emulsified aromatic esters are extremely powerful carriers for disperse dyes. Some of these esters are methyl salicylate, methyl benzoate, and isopropyl benzoate. An emulsifying agent that has been successful is dioctyl sodium sulfosuccinate. In the case of methyl salicylate, 1 part emulsifying agent to 10 parts of methyl salicylate gives good emulsions that are stable for 8 hrs. Ratios as low as 1 to 50 are also satisfactory in some cases.

The addition of solubilizing groups or ionizable groups to a dye or carrier renders them ineffective in dyeing Dacron. Dispersing agents have restraining power on disperse dyes in proportion to their solubilizing power.

A number of liquid aromatic esters have been emulsified simply by stirring the ester and the emulsifying agent together in water. Solid esters are dissolved in butanol and then emulsified.

The best carriers in the aromatic group studied are those in which no substitutions have been made on the benzene ring. A decrease in efficiency occurs when the

TEXTILE WORLD

Reprints Available

▶ **Reprints of the following articles run in past issues of TEXTILE WORLD are available at the price indicated. To order, write or use the coupon below, stating the titles of the reprints desired. Enclose check or money order payable to TEXTILE WORLD.**

HOW TO BE A BETTER SUPERVISOR — **50¢ each, 40¢ in lots of 20 or more**
A series of articles on human relations and the supervisor's dealings with workers. The material tells supervisors how to increase their effectiveness by learning to understand people better. Pointers on how to improve employee morale, get worker cooperation, and reduce labor turnover are included.

CHEMICAL FINISHING TECHNIQUES — **$1 each, 85¢ each in lots of 20 or more**
A series of four articles that explain the chemical and physical properties of a number of finishing materials and their applications to and reactions with cellulose and various synthetics.

ENGINEERED TEXTILE DESIGN — **Set of 5 articles. $1.25 per set**
A series of articles of interest to those engaged in practical fabric design or in teaching functional design. One article introduces the all-fiber system, which takes the guess out of how many ends and picks to use in changing to a new fabric. Another shows how to change weight without changing structure. Detailed numerical examples are provided. A discussion of yarn diameters, as the basis of structure, opens the series.

SYNTHETIC-FIBER TABLE — **50¢ each, 40¢ in lots of 20 or more**
The latest (1953) edition lists by type and name all U. S. yarns and staple fibers in commercial production. A list of suppliers by type and form of fiber is also included. Valuable related data and a "Terminology and References" section are included. Comparative properties of wool and cotton fibers are included. An explanation of glass-fiber nomenclature and its yarn-numbering system makes conversion to cotton counts easy.

WOOL-SYSTEMS FLOW CHART — **35¢ each, 25¢ in lots of 20 or more**
New (1953) edition shows all the processes in making woolen and worsted fabrics on all yarn systems. Six typical finishing routines are also pictured to cover the main fabric types. The chart includes the manufacture of synthetic and blended fabrics on wool systems.

COTTON FLOW CHART — **25¢ each, 15¢ in lots of 20 or more**
An illustrated step-by-step process chart of cotton manufacturing from bale to finished fabric. Both principal and alternate flows are shown.

CONTINUOUS-FILAMENT FLOW CART — **25¢ each, 15¢ in lots of 20 or more**
Principal and alternate step-by-step process in handling continuous-filament yarns from the case of yarn to the finished fabric (including tire cord) are shown.

KNITTING FLOW CHART — **15¢ each, 10¢ in lots of 20 or more**
The sequences of processes for the subdivisions of the knitting branch of the industry—women's hosiery, men's full-fashioned hosiery, half-hose, and knitted underwear and outerwear (circular and warp)—are shown and illustrated.

FELT FLOW CHART — **15¢ each, 10¢ in lots of 20 or more**
Manufacture of roll felts, sheet felts, and felt wheels is shown in step-by-step order.

COTTON-FIBER TABLE — **25¢ each, 15¢ in lots of 20 or more**
Revised (1953) edition shows fiber properties and manufacturing performance of the 11 varieties of cotton that make up more than 80% of the U. S. cotton grown. Data given enable mills to save money by selecting the best fiber for the end product.

TEXTILE BIBLIOGRAPHY — **25¢ each, 15¢ in lots of 20 or more**
An up-to-date listing of the important English-language books on textile technology. Twelve-page folder lists more than 1,400 items in 20 categories and includes a directory of publishers.

SHRINKAGE TABLES — **25¢ each, 15¢ in lots of 20 or more**
These tables permit quick determination of ½ to 25% shrinkage, covering pieces from 50 to 100 yds.

THE SUPERVISOR AND HIS JOB — **25¢ each, 15¢ in lots of 20 or more**

HOPI ACALA — **25¢ each, 15¢ in lots of 20 or more**

SAFETY — **15¢ each, 10¢ in lots of 20 or more**

STANDARDS DEPARTMENTS — **25¢ each, 15¢ in lots of 20 or more**

EDITOR
TEXTILE WORLD
330 West 42nd St.
New York 36, N. Y.

Please send the following TEXTILE WORLD reprints. My check or money order is enclosed

Quantity	Reprint Title	Cost Each	Total Cost

Name .....

Street .....

City ..... State .....

MIRATEX...

the world's most famous elastic yarn—made in a complete range of sizes and tensions for knitting, weaving or shirring elastic fabrics.

MIRATRON...

the first extruded latex thread—long a favorite for all types of webbing. Available in regular and in the heat-resistant compound pioneered by U. S. Rubber to meet postwar laundering requirements.

MIRASPUN...

the supersoft, superfine elastic yarn—developed and made only by United States Rubber Company, vital for knitting or weaving the lightest and sheerest of fabrics.

REVTEX...

"U. S." trademark for one of the original cut-rubber threads—used for many generations by industry in all kinds of narrow elastics. Also available in the heat-resistant compound.

For Further Information Write

UNITED STATES RUBBER INTERNATIONAL
159 East 42nd Street, New York 17, N. Y.

ACETATE YARN DYEING

•

FLAT FILAMENT
THICK & THIN
REGULAR FILAMENT

COLORED YARN ON
ATLANTIC DYETUBES —
EASY TO HANDLE —
SHADES FROM A TO IZZARD —
LARGE BATCHES

JOBBERS OF NATURAL
RAYON & ACETATE YARNS

★

Atlantic Rayon
CORPORATION

Dyers and Converters
of Synthetic Yarns
for All Industries

Plant at Providence 1, R. I.

NEW YORK
REPRESENTATIVE

Empire State Bldg.
Fifth Ave., New York 1

★

alkyl group is increased from methyl to amyl.

Experiments show that methyl salicylate or methyl benzoate are more effective than polynuclear carboxylic acid esters and that their carrier action is not a result of hydrolysis. Mixtures of methyl alcohol and benzoic acid do not have the carrier action of methyl benzoate.

Methyl Salicylate as Carrier

A carrier was made with methyl salicylate emulsified with dioctylsodium succinate in a ratio of 1 part emulsified to 10 parts ester, and dyeings were made with several acetate dyes in which the ester concentration was varied from 1 to 16 grams per liter. The best color value was obtained from 4 to 8 gpl.

A comparison of methyl salicylate with carriers now being used commercially showed that in true efficiency (color after soaping) methyl salicylate was first, followed by monochlorobenzene, o-phenylphenol, and phenyl methyl carbinol. The dyeings for these tests were made with Calcosyn Blue G and Calcosyn Orange G Ex. Conc. at 160° F., 180° F., and 212° F.

Dyeings made at 212° F. showed about the same strength with all the carriers; but after soaping, there was considerable difference in color value. Other dyeings made at 212° F. with a series of acetate dyes and different carriers in recommended amounts showed that methyl salicylate produced better color value in most cases.

Carrier Efficiency Varies

Carriers vary greatly in their ability to promote diffusion. Some dyes diffuse more rapidly than others; and it is not known whether this difference is because of dye molecule shape or size, dyebath aggregation, or other factors.

Samples of fiber taken at different stages of dyeing were cross-sectioned and examined microscopically to determine variation in diffusion rate. Methyl salicylate and monochlorobenzene showed surprising results at relatively low temperatures. With Calcosyn Orange GC Ex. Conc., complete penetration was obtained in 20 mins. at 160° F. and in 10 mins. at 180° F. with either methyl salicylate or monochlorobenzine as the carrier. Other carriers showed almost no penetration after 2 hrs. at 160° F. A number of acetate dyes have been applied to Dacron with methyl salicylate emulsion as a carrier, with complete penetration achieved in from 10 to 20 mins. at 180° F.

A series of dyeings made at 160°, 180°, 200° and 212° F. with methyl salicylate emulsions and 15 acetate dyes showed equal or slightly superior results in color value after 1-hr. dyeings than after 2-hr. dyeings. Dyeings made at 160 and 180° F. were slightly inferior in color value but equal in fastness to those dyed at 200 and 212° F.

High Temperature vs. Carrier Dyeing

Dyeing at the boil with methyl salicylate as a carrier produced superior results to dyeing without carriers at 250° F. More dye was exhausted, and better color values were obtained. Addition of the carrier to the high-temperature dyeing did not improve results.

Fiber strength is not impaired by methyl salicylate, nor does there appear to be any problem of toxicity or waste disposal. Residual carrier can be removed by a light scouring, but fastness is not affected by small amounts left after dyeing.

Fast-Color Printing

CONTINUED FROM PAGE 103

being coupled, they are approximately the final shade and are readily visible in the printing operation; since there is no possibility of cross-coupling, they can be shaded with each other the same as vat dyes; they have the brightness of azoic dyes, and by supplementing them with vat dyes, almost any range of shades of maximum fastness can be produced; and they can be printed in contact with aniline black.

Resin-Bonded Pigments Are Lightfast

Organic or inorganic pigments with no affinity for fibers can be fixed with bonding agents. Some pigments have extreme lightfastness; but when they are bonded to fabrics, their fastness to washing, crocking, and wet abrasion depends upon the binding medium and the curing or fixing method.

Since the pigments are practically unaffected by the development or fixation processes for other print colors, it is necessary only to consider the effect of the aftertreatment upon the binding properties of the fixing media.

Pigment printing pastes are of three types: water-in-oil emulsion, oil-in-water emulsion, and an all-aqueous type. Each type has its individual characteristics. After printing, a heat treatment polymerizes the binding material, fixing the pigments firmly on the cloth.

Many pigment colors are printed with azoic dyes, which are acid aged. Acid ageing accelerates the polymerization of the binding material and improves the fastness of the pigments. Some plants are acid ageing all their pigment prints even though no azoic dye is used in the pattern.

Special Types Are of Interest

Among special dyes that have particular interest is the phthalocyanin group. With this group, an insoluble pigment is formed on the fabric, causing an ingrain effect. They are applied in solution form; and the insoluble pigment is formed by heat, neutral ageing, or acid ageing. Some types can be shaded with leucoesters or stabilized azoics.

Recently, a special type of sulfur black for printing has come into extensive use. The dye is applied with glucose and potash and is fixed by neutral ageing. The new sulfur black is not affected by hydro and can print in contact with vat dyes. It is less expensive than vat black; and although more expensive than aniline black, it is completely visible in printing and thus reduces seconds. It forms no halo on dyed grounds.

NEWS of the MONTH

How To Get Ahead

At a meeting of the National Council for Textile Education in Charlottesville, Va., it was pointed out that staff jobs lead to faster promotion in many mills because staff men must have the technical training offered by textile schools. Many mills do not make full use of textile-school graduates because the management is not sold on the advantages of textile-school graduates.

Report on Asia

Dean Campbell of the School of Textiles of N. C. State College reviewed his recent trip to Japan for a group of alumni: "Japanese mills are among the most efficiently equipped and operated in the world. They are making high-quality fabrics to compete in the world's markets. And they are doing it with extremely efficient—and extremely low-paid—labor . . . In Japan, I found spinners tending 3,200 spindles and receiving 4,000 yen a month—that's $11 . . ." Dean Campbell reported that about 60% of Japan's output is for export.

On the other hand, in Indian and Pakistan cotton mills, a spinner seldom tends as many as 400 spindles.

Flammable Fabrics

Many fabrics containing sizes such as starch and gelatin, which might be removed in washing or dry cleaning, are being flame tested in their original state only, according to H. M. Block of U. S. Testing Co. However, an interpreting amendment to the Flammable Fabrics Act says that cleaning operations can be bypassed if "no other condition would make the material more flammable after dry cleaning and washing." Removing size can make the fabrics more flammable.

Fiber News

► Arnel is the name given to the cellulose-triacetate fiber, called X-100 in the laboratory, developed by Celanese Corp. of America. Arnel is said to offer ease of processing, affinity for blending with other fibers, high receptivity to dyeing and finishing, and low price. New finishing techniques for special effects have been developed for fabrics made of Arnel. First production will be in 2.5-den. staple.

► A rayon tire yarn of high strength and improved fatigue characteristics is in production at the Front Royal, Va., plant of American Viscose Corp. The new yarn is called Super Rayflex; price: 64¢ a lb., which includes a 3¢ a lb. premium; 1,650-den. yarn is now available.

► A national marketing quota of 30,000 bales and a national acreage allotment of 46,154 acres for the 1955 crop of extra-long staple cotton has been set by the Dept. of Agriculture. Because of prospective large supplies, the quota is the minimum prescribed by law.

► A national marketing quota of 10-million bales and a national acreage allotment of 18,113,208 acres for the 1955 crop of upland cotton has also been proclaimed.

► A 100%-Dacron felt has been developed by Du Pont. The process will be licensed.

► Tweed and shetland fabrics made of Acrilan and filament nylon have been developed by Chemstrand Corp. Information is available from that company.

► Per-capita fiber consumption in 1953 increased to 41.1 lbs., up 0.5 lb., according to the Dept. of Agriculture. Major fibers: cotton: 28.3 lbs. (up 0.1); wool: 3.1 lbs. (up 0.1); rayon and acetate: 7.7 lbs. (steady); other man-made fibers: 1.8 lbs. (up 0.2).

► Du Pont is experimenting with four-filament 12-den. nylon yarns. The yarns are intended for women's hosiery, and some of the experimental lots are to be put through the Helanca process.

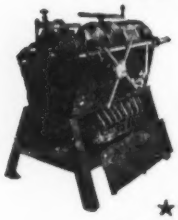
► A stretch-wool yarn is being made in Canada for men's socks. Helanca yarn is fed between the front rolls of the spinning frame. The Helanca yarn is hidden by wool fibers, and yet the Helanca retains much of its elasticity.

► Industrial Rayon Corp. has announced that commercial production of its new nylon staple has started in the new plant in Covington, Va. Initial production capacity is 6-million lbs. per year. Luster: semidull and extra-bright.

AT YOUR SERVICE
SPECIALIZED ENGINEERING
SPECIALIZED EXPERIENCE
SPECIALIZED MACHINERY FOR TWISTING BUNCHING STRANDING FORMING AND LAYING IN THE TEXTILE • WIRE CORDAGE AND MANY OTHER INDUSTRIES
WRITE TODAY. YOUR INQUIRY WILL GET PROMPT ATTENTION
HASKELL-DAWES MACHINE CO., INC.
2231 E. ONTARIO ST.
PHILADELPHIA 34
PA.

Step up
SPEED
THREADING ½" to 4" PIPE
Bring down Costs!

TOLEDO No. 1-2-4
POWER PIPE MACHINE
makes the job Easier!



★ *Threads 2" pipe in 18 seconds,* 3" in 30, 4" in 42.

★ *Cuts off 4" pipe in 9 seconds* with 4 high speed steel cutter knives, scroll fed.

★ *Instant size change . . .* separate quick-opening die head for each size pipe.

★ *High production . . .* performance proved! Order through your supply house.

TOLEDO
Builders of World's Finest
PIPE TOOLS . . .
PIPE WRENCHES . . .
POWER DRIVES . . .
POWER PIPE MACHINES
TOLEDO PIPE THREADING MACHINE CO.
Toledo, Ohio

News Briefs

► The recent splurge of mergers among textile companies is reported to be an attempt to increase the working size of the textile companies involved and to diversify products. However, no textile company controls more than 4½% of U. S. textile production.

► The Mid-West Section of AATCC has announced an annual scholarship award for sons and daughters of members of the section. The award will be up to $400 for one year at a textile school.

► A water softener check-up service is being offered without obligation by Elgin-Refinite Div., Elgin Softener Corp., Elgin, Ill. Any zeolite softener will be checked by a field engineer, who will submit a report to the owner.

► Synthetic-fiber manufacturers are spending about 16 times more, pound for pound, for better methods and products than all federal, state, and private sources on cotton research, according to Harold A. Young, chairman of the Cotton Council's board of directors.

► The Atlantic City machinery show, sponsored by American Textile Machinery Assn., will be held again in 1960. The show was postponed two years because of the expense involved in producing the show. The show last April reportedly cost $30-million to put on.

► *Industrial Research Laboratories of the United States,* a nonprofit publishing project of the National Research Council, offers free listings to any mill laboratory during research work, including process or product development. For a questionnaire, write James F. Mauk, National Research Council, 2101 Constitution Ave. N. W., Washington 25, D. C. Publication is scheduled for next summer.

► *Accident Rates,* the National Safety Council's annual summary, reports a textile-industry (188 member units, including four clothing manufacturers) 1953 accident-frequency rate of 5.51, down 14% from 1952, and a severity rate of 0.42, down 18%. Averages for all industries were 7.44 and 0.83; and high industries were coal mining, 25.81 and 4.79, and lumber, 33.71 and 3.90.

► The sale of knit shorts has increased 124% since 1941, according to the William Carter Co. In 1941, about a third of the male population wore knit shorts; now, half are said to wear them. The sale of woven shorts has increased 37% since 1941.

► A new wage-and-hour survey of the textile industry is being conducted by the Bureau of Labor Statistics of the U. S. Dept. of Labor. Field representatives started making plant visits in November.

► Reduced rates on less-than-carload shipments of cotton, rayon, synthetics, and blended fabrics were announced by Western Carloading Co. Rate reductions apply to the above fabrics shipped from Western's stations in New York, Boston, or Philadelphia into California. Actual rate reductions go as high as 76¢ per 100 lbs.

Mill Developments

► One North Carolina cotton-spinning mill is reported to be specifying in purchase contracts that no stencil markings be placed on cotton bales.

► Pacific Mills has developed a mercerized Type 200 combed percale. Called Miracale, the percale will go into contour sheets.

► E. T. Barwick Mills, Dalton, Ga., is planning to set up 50 scholarships for sons of employees. E. T. Barwick, president, invited other manufacturers to make such an educational undertaking industrywide.

► Bigelow Fiber Glass Products, a division of Bigelow-Sanford Carpet Co., Inc., is producing 84-in. mechanically bonded fiber-glass mats.

► 50-50 Acrilan-wool blends are going into 12-oz. gabardine and 8-oz. tropicals at Bachmann Uxbridge Worsted Corp.

► Chatham Mfg. Co. is packing blankets in a four-blanket container that is used both for shipping and home storage. The container has printed designs but carries no advertisements.

► Waucantuck Mills is producing washable suiting fabric from a 50-50 blend of Dacron and Orlon.

► 65-35 blends of Dacron and acetate are going into washable suitings at Cone Mills.

TEXTILE CALENDAR

December

AATCC, Rhode Island Sect., annual meeting, Sheraton Biltmore Hotel, Providence, R. I., Dec. 2.

AATCC, Hudson-Mohawk Sect., Jack's Restaurant, Albany, N. Y., Dec. 2.

National Exposition of Power and Mechanical Engineering, Commercial Museum, Philadelphia, Pa., Dec. 2 to 7.

AATCC, Philadelphia Sect., Kugler's Restaurant, Philadelphia, Pa., Dec. 3.

AATCC, Pacific Southwest Sect., Gourmet Restaurant, Beverly Hills, Calif., Dec. 3.

AATCC, South Central Sect., Hotel Patten, Chattanooga, Tenn., Dec. 4.

Society of the Plastics Industry, Coated Fabrics Div., Hotel Commodore, New York, N. Y., Dec. 7 and 8.

AATCC, Washington Sect., Pepco Auditorium, Washington, D. C., Dec. 8.

AATCC, Western New England Sect., Rapp's Restaurant, Shelton, Conn., Dec. 10.

AATCC, Northern New England Sect., Woodland Golf Club, Auburndale, Mass., Dec. 10.

Symposium on Fiber-Form Factors, Polymer Research Institute, Brooklyn Polytechnic Institute, Brooklyn, N. Y., Dec. 11.

AATCC, Southeastern Sect., Biltmore Hotel, Atlanta, Ga., Dec. 11.

Canadian ATCC, Quebec Sect., Physical Science Center, McGill University, Montreal, Canada, Dec. 11.

1955

January

Symposium on Fiber Interactions, Polymer Research Institute, Brooklyn, Polytechnic Institute, Brooklyn, Jan. 8.

AATCC, Hudson-Mohawk Sect., Jack's Restaurant, Albany, N. Y., Jan. 14.

AATCC, Western New York Sect., Buffalo, N. Y., Jan. 14.

Canadian ATCC, Quebec Sect., Physical Science Center, McGill University, Montreal, Canada, Jan. 15.

Plant Maintenance and Engineering Show, International Amphitheater, Chicago, Ill., Jan. 24 to 27.

International Heating and Ventilating Exposition, Convention Hall, Philadelphia, Pa., Jan. 24 to 28.

American Society for Quality Control, Textile Div., annual meeting, Clemson College School of Textiles, Clemson, S. C., Jan. 27 to 29.

AATCC, New York Sect., Hotel Statler, New York, N. Y., Jan. 28.

February

Symposium on Blend Engineering, Polymer Research Institute, Brooklyn Polytechnic Institute, Brooklyn, N. Y., Feb. 5.

AATCC, Washington Sect., place to be announced, Washington, D. C., Feb. 11.

Cotton Research Clinic, sponsored by National Cotton Council, Pinehurst, N. C., Feb. 16 to 18.

Canadian ATCC, Quebec Sect., Physical Science Center, McGill University, Montreal, Canada, Feb. 19.

AATCC, New York Sect., Hotel Statler, New York, N. Y., Feb. 25.

AATCC, Hudson-Mohawk Sect., Jack's Restaurant, Albany, N. Y., Feb. 25.

March

AATCC, Western New York Sect., Hamilton, Ont., Canada, March 4.

Symposium on Fiber-Yarn-Fabric Relationships, Polymer Research Institute, Brooklyn Polytechnic Institute, Brooklyn, N. Y., March 5.

National Assn. of Corrosion Engineers, Hotel Palmer, Chicago, Ill., March 7 to 11.

Textile Research Institute, annual meeting, Hotel Commodore, New York City, N. Y., March 10 and 11.

AATCC, New York Sect., Kohler's Swiss Chalet, Rochelle Park, N. J., March 18.

Canadian ATCC, Quebec Sect., Physical Science Center, McGill University, Montreal, Canada, March 19.

American Cotton Manufacturers Institute, annual meeting, Biltmore Hotel, Palm Beach, Fla., March 31 to April 2.

April

Symposium on Textile Research, Polymer Research Institute, Brooklyn Polytechnic Institute, Brooklyn, N. Y., April 2.

AATCC, New York Sect., Kohler's Swiss Chalet, Rochelle Park, N. J., April 2.

Phi Psi Textile Fraternity, annual convention, Lowell Tech, Lowell, Mass., April 7 to 9.

Alabama Cotton Manufacturers Assn., 50th anniversary meeting, Biloxi, Miss., April 13 to 15.

American Society of Lubrication Engineers, annual meeting, Hotel Sherman, Chicago, Ill., April 13 to 15.

AATCC, Hudson-Mohawk Sect., Jack's Restaurant, Albany, N. Y., April 15.

Textile Exhibition, Canadian ATCC, Sheraton-Mount Royal Hotel, Montreal, Canada, April 21 to 23.

AATCC, Western New York Sect., Buffalo, N. Y., April 22.

AATCC, New York Sect., Kohler's Swiss Chalet, Rochelle Park, N. J., April 22.

Knitting Arts Exhibition, Convention Hall, Atlantic City, N. J., April 25 to 29.

Cotton Manufacturers Assn. of Ga., 55th anniversary convention, Boca Raton Hotel, Boca Raton, Fla., April 27 to 29.

May

The Fiber Society, spring meeting, School of Textiles, Alabama Polytechnic Institute, Auburn, Ala., May 4 and 5.

International Silk Congress, Brussels, Belgium, May 9 to 14.

June

Southern Textile Association, annual convention, Mayview Manor, Blowing Rock, N. C., June 16 to 18.

Materials Handling Exposition, International Amphitheater, Chicago, Ill., June 16 to 20.

International Textile Exhibition, Brussels, Belgium, June 25 to July 10.

American Society for Testing Materials, annual meeting, Chalfonte-Haddon Hall, Atlantic City, N. J., June 26 to July 1.

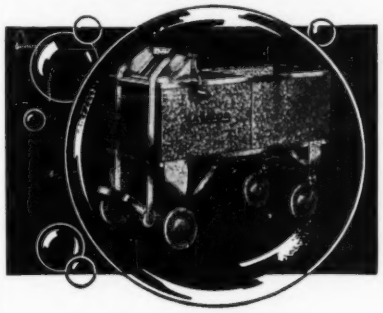
September

The Fiber Society, fall meeting, Mass. Institute of Technology, Cambridge, Mass., Sept. 8 and 9.

AATCC, national convention, Chalfonte-Haddon Hall, Atlantic City, N. J., Sept. 21 to 23.

Northern Textile Assn. and National Assn. of Cotton Manufacturers, annual convention, Wentworth-By-The-Sea, Portsmouth, N. H., Sept. 29 and 30.

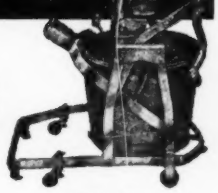
LAWLOR
MOPPING TANKS



Lead the Field in
RUGGEDNESS and SERVICE

8 styles and sizes of all steel, acetylene welded tanks • 2 or 3 compartments • 30, 60 or 65 gallon capacities • Hand or foot pressure wringers • Perforated roll wringers • Special drain shut-offs • Hot dipped, galvanized chassis and frames • Rubber tired, cadmium plated steel wheels.

LAWLOR
MOP WRINGERS



Copied but never Duplicated!

EASIEST turning wringer made: there are bearings at ends of rollers.

EASY to bring rolls together; the foot lever is perfectly balanced.

EASY to move wringer: self-adjusting front casters raise metal feet from floor when you're ready to go.

The LAWLOR No. 2 accommodates any standard round, galvanized pail up to 16-quart capacity. Net weight of wringer—23 pounds.

LAWLOR No. 6 TWIN is like the No. 2 Wringer in general construction, but accommodates two pails.

Write for Catalog of Complete Lawlor Line.

S. C. LAWLOR CO.
Quality Floor Equipment for 50 Years
130 N. Aberdeen St., Chicago 7, Ill

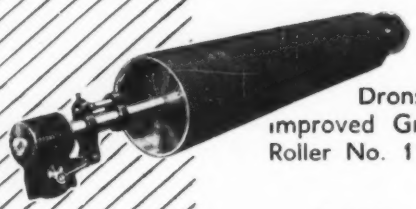
10,000,000 CARDING POINTS
NEED PERFECT GRINDING ROLLS
AND

CARD GRINDING
WITH ABSOLUTE
ACCURACY

DRONSFIELD'S PATENT MOTOR-DRIVEN FLAT SURFACE GRINDING MACHINE No. 241.

Designed for grinding revolving flats—four simultaneously—dismounted from the cards. Absolute precision in setting is the aim.

Dronsfield's Patent - Traverse Wheel Grinder. No. 120 —*if requested, can be supplied fitted with ball bearings.*

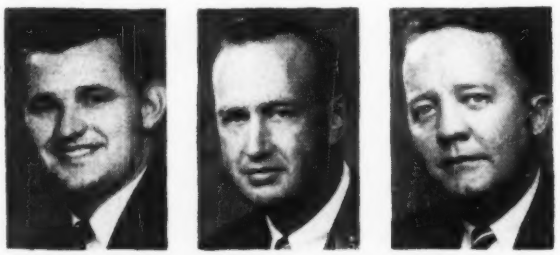


Dronsfield's improved Grinding Roller No. 112.

Made by
DRONSFIELD BROS LTD.
OLDHAM . ENGLAND

ALL ENQUIRIES TO:-
JOHN HETHERINGTON & SONS. INC.
N Marietta St. Ext. Gastonia, N.C.
TRADE MARKS:
"ATLAS" AND "DRONSFIELD'S"

ABINGTON TEXTILE MACHINERY WORKS, North Abington, Mass.—Has opened a new office in Greenville, S. C. John W. Burbine named Southern agent; W. W. Brame promoted to assist Mr. Burbine. . . . **ALLIED CHEMICAL & DYE CORP.,** Solvay Process Div., New York, N. Y.—R. B. Anthony named manager of Special Alkalies Section; F. P. Boehm named manager of Ammonium & Potassium Products Section; H. R. Smith named manager of Calcium Chloride Section. . . . **AMERICAN CYANAMID CO.,** New York, N. Y.—Martin B. Friedman appointed to the advertising and sales-promotion staff. . . . **BENJAMIN ELECTRIC MFG. CO.,** Des Plaines, Ill.—Has established new district offices at Los Angeles and San Francisco, Calif., and Seattle, Wash. Oliver C. Westberg named Pacific Coast Div. manager. . . . **BRINTON MACHINE CO.,** Philadelphia, Pa.—Has presented a new circular knitting machine to Philadelphia Textile Institute. . . . **CHEMICAL PROCESSING**



DOYLE H. STANSELL (left) has been named service engineer for the E. H. Jacobs Northern and Southern Divs. of Bullard Clark Co., Danielson, Conn., and Charlotte, N. C. J. WALTER BARR (center) and JAMES W. STUART have been elected vice presidents of Pneumafil Corp., Charlotte, N. C.

CO., Charlotte, N. C.—W. C. Lynch appointed South Carolina sales representative. . . . **CHEMSTRAND CORP.,** Decatur, Ala.—Frank Wright, Jr., and William P. Tukey named to the sales department. . . . **COLSON CORP.,** Elyria, Ohio—Richard E. Hamm named advertising and sales-promotion manager. . . . **COURTAULDS (ALABAMA) INC.,** Le Moyne, Ala.—Has approved plans for an immediate doubling and eventual tripling of production capacity. . . . **DIXON CORP.,** Bristol, R. I.—Has named R. E. L. Holt, Jr., & Associates, Greensboro, N. C., distributor throughout the South for the new Dixon saddle guide and other drafting components. . . . **DRAPER CORP.,** Hopedale, Mass.—Charles E. Burnham named assistant chief engineer. . . . **E. I. DU PONT DE NEMOURS & CO., INC.,** Wilmington, Del.—Robert L. Richards named to the board, a vice president, and a member of the Executive Committee. Andrew E. Buchanan, Jr., named general manager of the Textile Fibers Dept. . . . **FABRIC RESEARCH LABORATORIES, INC.,** Boston, Mass.—Has broken ground for a new laboratory and office building in Dedham, Mass. . . . **GARDNER-DENVER CO.,** Quincy, Ill.—A. G. Lindquist elected vice president. . . . **GOODYEAR TIRE & RUBBER CO.,** Akron, Ohio—Has named the following representatives: Frank W. Milward, Chicago, Ill., Paul A. Koons, Cleveland, Ohio, and Joseph M. Donohue, Boston, Mass. . . . **HEYDEN CHEMICAL CORP.,** New York, N. Y.—Has contracted to acquire the outstanding stock of Nuodex Products Co., Inc., Elizabeth, N. J. . . . **HOBBS MFG. CO.,** Worcester, Mass.—Has appointed Parrott & Ballentine, Greenville, S. C., exclusive sales representatives in 11 Southern states. . . . **HOWARD BROS. MFG. CO.,**

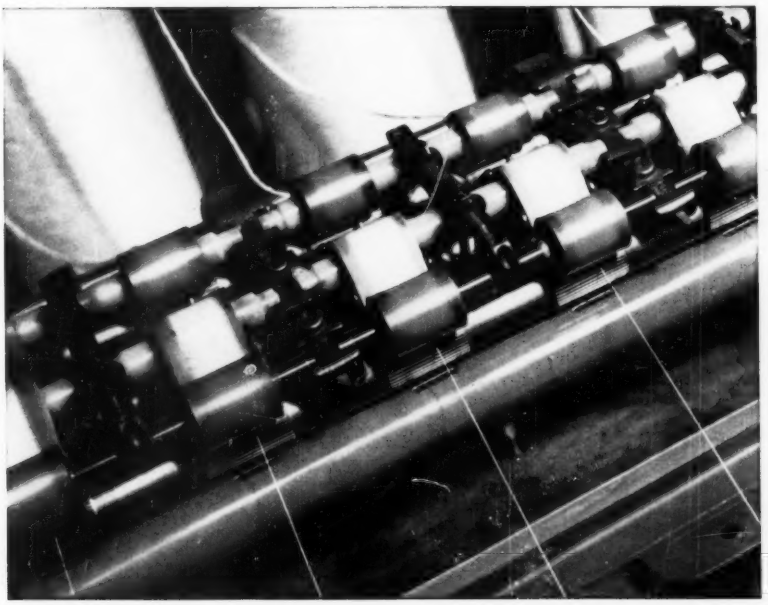
DU PONT

PROPERTY AND APPLICATION DATA ON THESE VERSATILE ENGINEERING MATERIALS: "ZYTEL," "ALATHON," "TEFLON," "LUCITE."

TEXTILE MACHINE NEWS

No. 6 — 1954

Top Rolls Molded of Du Pont "Zytel"* Overcome Oiling, Wear and Lint Problems



This spinning frame with top rolls of Du Pont "Zytel" nylon resin has been running 32 consecutive hours. Because "Zytel" never needs oiling in this application, scarcely any lint or dust has accumulated. Yarn contamination by top roll oiling is also eliminated. These features represent labor savings because of the extended roll picking cycle and elimination of roll oiling.

Spinning frames need far less picking, yarn spoilage avoided

Accumulation of lint and dust has been a common problem with spinning frame equipment. Up to now these accumulations were virtually impossible to avoid. Top rolls of conventional materials needed frequent oiling; and oil, quite naturally, attracted lint. But top rolls molded of Du Pont "Zytel" nylon resin have eliminated this problem. Because these rolls have a lower coefficient of friction, *they need no oiling*.

REDUCED MAINTENANCE COSTS

Whitin Machine Works in Whitinsville, Massachusetts, have adopted the new economical "Cleandraft" top roll of "Zytel" which is manufactured by Industrial Plastics, Inc. These top rolls are now standard equipment on all Whitin cotton and staple synthetic spinning frames. This company relates the experience of one cotton textile mill that uses their machines. Before the rolls of "Zytel" were installed, it was the practice for this mill to clean the top rolls at least once in an eight-hour shift—even more frequently for certain jobs. The accumulated material would sometimes wind itself around the rolls so tightly that it actually interfered with the drafting process and had to be loosened by compressed-air-driven picks.

This process, Whitin points out, wasted valuable man-hours. Again, in all mills someone had to lubricate the rolls at varying intervals. Often the oiler was either overgenerous with the lubricant or neglected some of the bearings. Result: yarn spoilage and frequent parts replacement.

YARN QUALITY IMPROVED

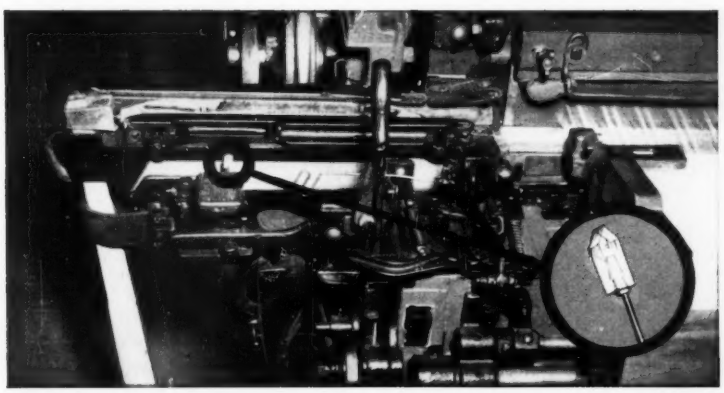
With the clean, oil-free rolls of "Zytel" nylon resin the necessity for all these costly procedures is now greatly reduced. No heavy accumulations of lint occur in the drafting equipment. Textile mills report that these new rolls have to be picked only once in every 45 shifts. The large picture shows a spinning frame that has been running thirty-two

(*Continued, column 1 back side*)

OVER

*"Zytel" is the new trade-mark for Du Pont nylon resin.

"Midget Feeler" with tips of "Zytel" for Synthetic Fiber Looms



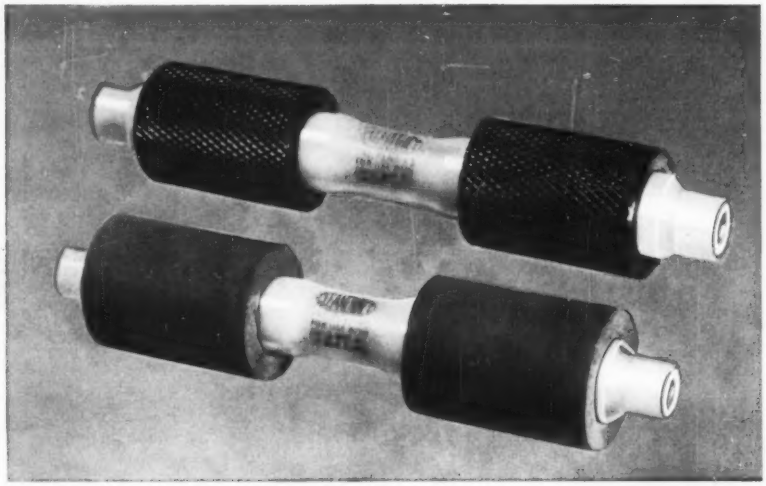
The smooth surface of Du Pont "Zytel" nylon resin won't shred synthetic fibers which often break from contact with other materials. The "Midget Feeler" with tips of "Zytel" is manufactured by the Draper Corporation, Hopedale, Massachusetts.

DU PONT

PROPERTY AND APPLICATION DATA ON THESE VERSATILE ENGINEERING MATERIALS: "ZYTEL," "ALATHON," "TEFLON," "LUCITE."

NEWS

NO. 6 — 1954



Close-up of "Cleandraft" top rolls with shafts of Du Pont "Zytel" nylon resin. These tough, abrasion-resistant shafts are produced by efficient injection-molding. Product Sales, Inc. is the selling agent for these top rolls which eliminate the need for lubrication.

Top Rolls *(Continued)*

consecutive hours without being cleaned. Notice how little lint has gathered. Use of these rolls of "Zytel" improves the evenness of the yarn and eliminates oil stains. The quality of the fabric is also improved.

LONG SERVICE

How do these rolls of "Zytel" wear? This engineering material is now used for many heavy-duty mechanical parts where the ability to resist abrasion and withstand impact is a primary consideration. "Zytel" has proved its toughness and wearability time and again—usually outlasting conventional materials by a wide margin. Records show that parts of "Zytel" for use in textile machinery not only lower maintenance costs but very frequently cut replacement costs as well.

Investigate Du Pont engineering materials in your product development programs

One of the family of these versatile engineering materials is often a key factor in product improvement or new product design.

The wide range of properties available with "Alathon"* polyethylene resin, "Lucite"* acrylic resin, "Teflon"* tetrafluoroethylene resin, and "Zytel"† nylon resin are helping solve industrial design problems.

NEED MORE INFORMATION?

Clip the coupon for additional data on the properties and applications of these Du Pont engineering materials.

E. I. DU PONT DE NEMOURS & CO. (INC.)
Polychemicals Department
Room 1812, Du Pont Building, Wilmington 98, Delaware

Please send me more information on the Du Pont engineering materials checked: ☐ "Zytel"; ☐ "Alathon"; ☐ "Teflon"; ☐ "Lucite". I am interested in evaluating these materials for:

_____

NAME_____ TITLE_____

COMPANY_____

STREET ADDRESS_____

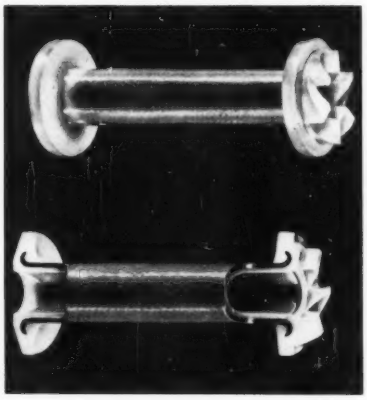
CITY_____ STATE_____

TYPE OF BUSINESS_____

*"Alathon", "Lucite", "Teflon" are registered trade-marks of E. I. du Pont de Nemours & Co. (Inc.)
†"Zytel" is the new trade-mark for Du Pont nylon resin.

Braider bobbin has chip-proof ratchet teeth of Du Pont "Zytel" nylon

"Toughness" is the word for the new braider bobbin of Du Pont "Zytel" nylon resin. It's a natural development from the narrow fabric quill of "Zytel" which has been used so successfully. Like the quill, this braider bobbin has a hub of aluminum, flared at the end into a 180° reverse curve. The Du Pont "Zytel" nylon resin is injection-molded through the hub bore to form the hub



Here is a new braider bobbin made of Du Pont "Zytel" nylon resin and aluminum. Notice in the cutaway view how the "Zytel" is molded around and through the aluminum hub to give extreme toughness. Ratchet teeth resist wear and chipping. Braider bobbin is manufactured by Plastic Mold and Engineering Company, Providence, Rhode Island.

lining and flanges. Ratchet teeth are molded in the same operation. Even under extreme conditions, these teeth have outstanding wear and chip-resistance. Dimensions are extremely accurate —varying no more than .003" in any direction, according to the manufacturer.

Here, then, is another example of how Du Pont "Zytel" proved such a popular success in one application that it led to the development of another. Perhaps the tough, long-service qualities of "Zytel" can help you develop an improved textile machine part. Use the coupon on this page for complete details on this versatile engineering material.

*"Zytel" is the new trade-mark for Du Pont nylon resin.

NEWS ABOUT SUPPLIERS *(Continued)*

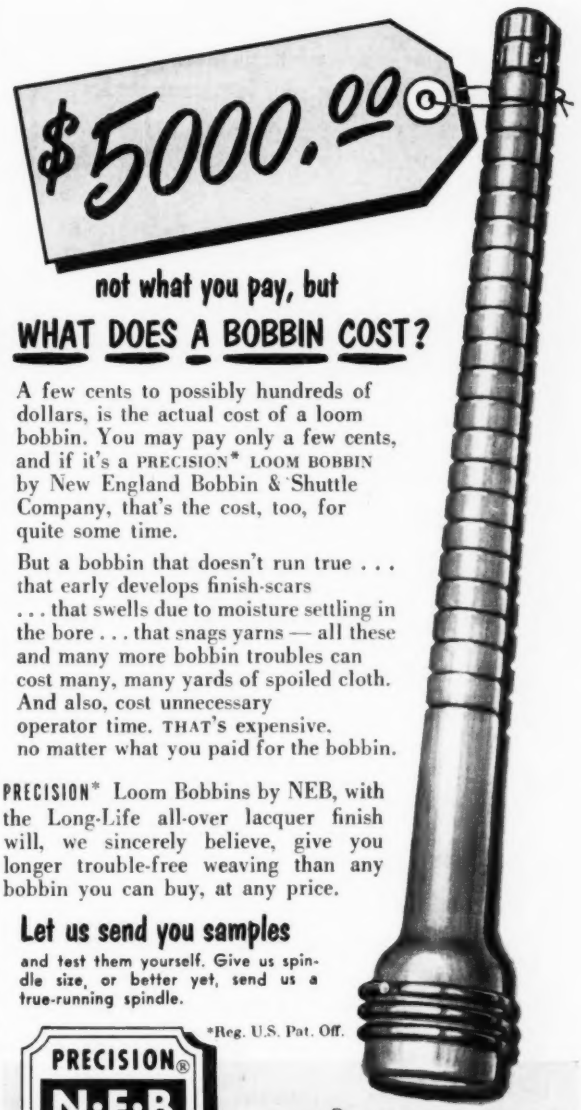
Worcester, Mass.—Charles A. Haynes appointed Northern manager and E. Jack Lawrence appointed Southern manager. . . . **RODNEY HUNT MACHINE CO.**, Orange, Mass.—Charles H. Amidon appointed assistant manager of textile-machinery division. . . . **MONSANTO CHEMICAL CO.**, St. Louis, Mo.—Has moved the production of several alkyl phosphates to its Everett, Mass., plant. . . . **ORIGINAL BRADFORD SOAP WORKS, INC.**, West Warwick, R. I.—Has appointed Karl H.

ALLEN W. TAYLOR (left) has been named technical sales representative in Virginia and North Carolina for Synthron, Inc., Ashton, R. I. JOHN J. RIECK (center) has been named manager of the new Chesterfield Synthetic Fiber Plant, National Aniline Div., Allied Chemical & Dye Corp, Hopewell, Va. WILLIAM H. POISSON (right) has been named New England states representative for Fiber Sales & Service for the National Aniline Div., New York, N. Y.

Inderfurth Co., Charlotte, N. C., sales representative in the South. . . . **PACKAGE MACHINERY CO.**, East Longmeadow, Mass.—Ernest A. Hjelm promoted to New York sales manager and Robert S. Lyons transferred to the New York office from Cleveland, Ohio, office. . . . **POLYMER SOUTHERN, INC.**, Greenville, S. C.—B. Barclay Newlin named to head sales, technical service, and developmental work on warp sizes and preparatory materials. . . . **PRECISION THERMOMETER & INSTRUMENT CO.**, Philadelphia, Pa.—Harry F. Ogden, Jr., named sales manager and George M. Cleary named chief engineer. . . . **QUAKER RUBBER CO.**, Philadelphia, Pa.—R. R. Meltz named manager of the Roll Covering Dept. . . . **RELIANCE ELECTRIC & ENGINEERING CO.**, Cleveland, Ohio—Peterson Nesbit named to the New York district sales office and Albo D. Bua named to the Newark, N. J., branch sales office. . . . **A. E. STALEY MFG. CO.**, Decatur, Ill.—Thomas C. Garren promoted to the newly created position of assistant to the director of technical service. . . . **STERLING ELECTRIC MOTORS, INC.**, Los Angeles, Calif.—John R. Howell named sales manager and director. . . . **YORK CORP.**, York, Pa.—Ray K. Serfass and J. M. L. Joslin named vice presidents.

F. M. ZORN (left) has been appointed technical service representative for the Michigan Alkali Div., Wyandotte Chemicals Corp., Wyandotte, Mich. JOHN H. READ (center) has been named to the sales staff of Dow Corning Corp., Midland, Mich. JOHN W. BEABER (right) has been sent to England on a special assignment for Torrington Co., Torrington, Conn.

WHITIN MACHINE WORKS, Whitinsville, Mass., has undertaken the manufacture of a new line of offset printing and duplicating equipment as part of its diversification program.



not what you pay, but

WHAT DOES A BOBBIN COST?

A few cents to possibly hundreds of dollars, is the actual cost of a loom bobbin. You may pay only a few cents, and if it's a PRECISION* LOOM BOBBIN by New England Bobbin & Shuttle Company, that's the cost, too, for quite some time.

But a bobbin that doesn't run true . . . that early develops finish-scars . . . that swells due to moisture settling in the bore . . . that snags yarns — all these and many more bobbin troubles can cost many, many yards of spoiled cloth. And also, cost unnecessary operator time. THAT'S expensive, no matter what you paid for the bobbin.

PRECISION* Loom Bobbins by NEB, with the Long-Life all-over lacquer finish will, we sincerely believe, give you longer trouble-free weaving than any bobbin you can buy, at any price.

Let us send you samples

and test them yourself. Give us spindle size, or better yet, send us a true-running spindle.

*Reg. U.S. Pat. Off.

PRECISION® N·E·B BOBBINS

PRECISION® AUTOMATIC LOOM BOBBINS for Cotton and Spun Rayon, Silk and Synthetics, Woolens and Worsteds.

Precisioned to Size — Precisioned for Concentricity
Precisioned for YOUR Spindles . . .

★

NEW ENGLAND BOBBIN & SHUTTLE CO.

Makers of PRECISION® *Automatic Loom Bobbins*

NASHUA, NEW HAMPSHIRE

★

Representatives:

HENRY H. HERSEY, Norwood Place, Greenville, S. C.

HARRIS MFG. COMPANY, 443 Stonewall St., S. W., P. O. Box 1982, Atlanta, Ga.

H. W. CURTIS, 735 W. Crescent Ave., Allendale, N. J.

Export Agents

THE CHARLOTTE SUPPLY CO., Charlotte, N. C.

VANDERBURGH & CO., INC., 25 Beaver Street, New York 4, N. Y.

HARRIS & UNDERHILL, 446 Statler Building, Boston, Mass.

Let Heineman work some market magic for you by filling your requirements for

Helanca® s-t-r-e-t-ch nylon natural and dyed (Heberlein license)

TASLAN textured yarn (E. I. du Pont license)

AND ASK US about Heineman's Oiled Only "P" Treatment for Welt Yarns

Oscar Heineman

CORPORATION . . . *Division of Aetna Industrial Corporation*

DONALD G. BREWSTER, *President and General Manager*

Processors of Nylon, Orlon, Dacron, Silk, Rayon and Other Synthetic Fibers

Armitage, Fairfield and Washtenaw Avenues, Chicago 47, Ill.

20 North Kerr St., Concord, N. C.

SALES AGENTS

C. D. Gott Co. • 1001 Provident Bldg. • Chattanooga
Charles T. Brereton • 11 West 42nd St. • New York 18
Frank Lunday • P. O. Box 1154 • Charlotte, N. C.
John G. Archer • 4th and Grand • West Des Moines, Ia.
Sterling D. Lochhead • 1934 N. Washtenaw Ave. • Chicago 47

NOW, order Plastic Redraw Caps by Mail!

Made of *Synthane* laminated plastics. Strong, super-smooth, non-snagging, protects delicate yarns.

Order any quantity. Delivery from stock. 3 TYPES

TYPE	FOR USE WITH	Prices per 100 (F.O.B. Factory) Under 500		500 and Over
A	1⅛" O.D. DuPont and Chemstrand DMW 12" Shipping Pirn	$25.32/C		$22.50/C
B	1 ⅜" O.D. Standard DuPont Nylon Shipping Pirn	$44.21/C		$39.04/C
C	3 11/16" I.D. Dacron Tube Package	$81.45/C		$70.79/C

SYNTHANE

SYNTHANE CORPORATION, 47 River Road, Oaks, Pa.

Please ship and bill us for:

_____ Type A Redraw Caps

_____ Type B Redraw Caps

_____ Type C Redraw Caps

Name_____

Company Name_____

Address_____

City_____ Zone_____ State_____

COTTON MILLS

Avondale Mills, Inc., formerly Southeastern Cottons, Inc., has moved its administrative and fabric-sales department from New York, N. Y., to Birmingham, Ala. Donald Comer, Jr., president of Avondale Mills, Inc., has moved his office to Birmingham.

Cabin Crafts, Inc., Dalton, Ga., is completing an expansion program at three of its local mills. This program has been in progress for several months and represents an investment of about $2,000,000.

Cherokee Textile Mills, Knoxville, Tenn., expects to have its new plant completed by January. The new plant measures 343x598 ft. and contains 220,000 sq. ft. of floor space.

Clarksville Mill, a unit of United Merchants & Manufacturers, Inc., Clarksville, Ga., has purchased 24 new XD Draper looms and three new ring twisters.

Cone Mills Corp., Greensboro, N. C., has started preliminary work on its new 500,000-sq.-ft. denim plant at San Marcos, Texas. The initial installation will consist of 540 looms, with a total of 1,080 planned. Total cost is placed at $8,000,000.

Coosa Mills, Inc., Attala, Ala., has been formed with Irving Phillipson as president. The firm plans to have its $200,000 dyed-yarn and carpeting mill in operation soon. Henry Culp is vice president and Benjamin Kahn is consultant in charge of sales.

Dixiana Mills, Inc., Dillon, S. C., has begun production of cotton carpets. The plant is a subsidiary of Mohawk Carpet Mills, Amsterdam, N. Y.

Gold-Tex Fabrics Corp., Rock Hill, S. C., has a $1,500,000 modernization program under way. Completion is expected next month. J. E. Sirrine Co., Greenville, S. C., is the engineer.

Harriet Cotton Mills and **Henderson Cotton Mills,** Henderson, N. C., has a modernization and expansion program under way that will cost $1,500,000. A 20,000-sq.-ft. addition to house roving frames will be constructed at Henderson.

Janesville Cotton Mills, Janesville, Wis., has let the contract to T. S. Willis, Janesville, for a one-story addition, 40x100 ft.

La France Automotive Fabrics, Inc., Anderson, S. C., is starting an expansion program to increase its capacity by one-third.

Mayfair Mills, Arcadia, S. C., has completed a major expansion and modernization program. New machinery includes 6 new blending feeders, new Saco-Lowell opening and cleaning equipment, 38 additional cards, new drawing frames, 12 new roving frames, and 956 new Draper X-2 looms.

Micolas Cotton Mills, Opp, Ala., will erect a 104x380-ft. weave-room addition and a 60x85-ft. card-room addition. About 200 new looms will be added to the mill's present 533. Cost is estimated at $500,000.

Pacolet Mfg. Co., Pacolet, S. C., has completed the construction of a 25,000-sq.-ft. warehouse at Spartanburg, S. C. The brick structure has storage space for 9,000 bales of cotton. The cost was $150,000.

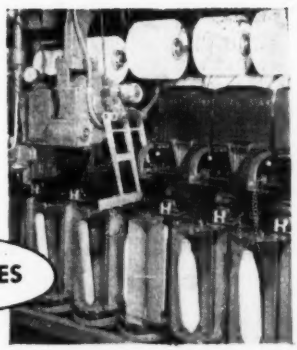
Quitman Mills, Quitman, Miss., has been sold by Alexander Smith, Inc., to Bruce Lanier & Associates, West Point, Ga., operator of Wehadkee Yarn Mills, West Point, Ga. The company plans to construct a 55,000-sq.-ft. addition to the Quitman mill at a cost of $300,000.

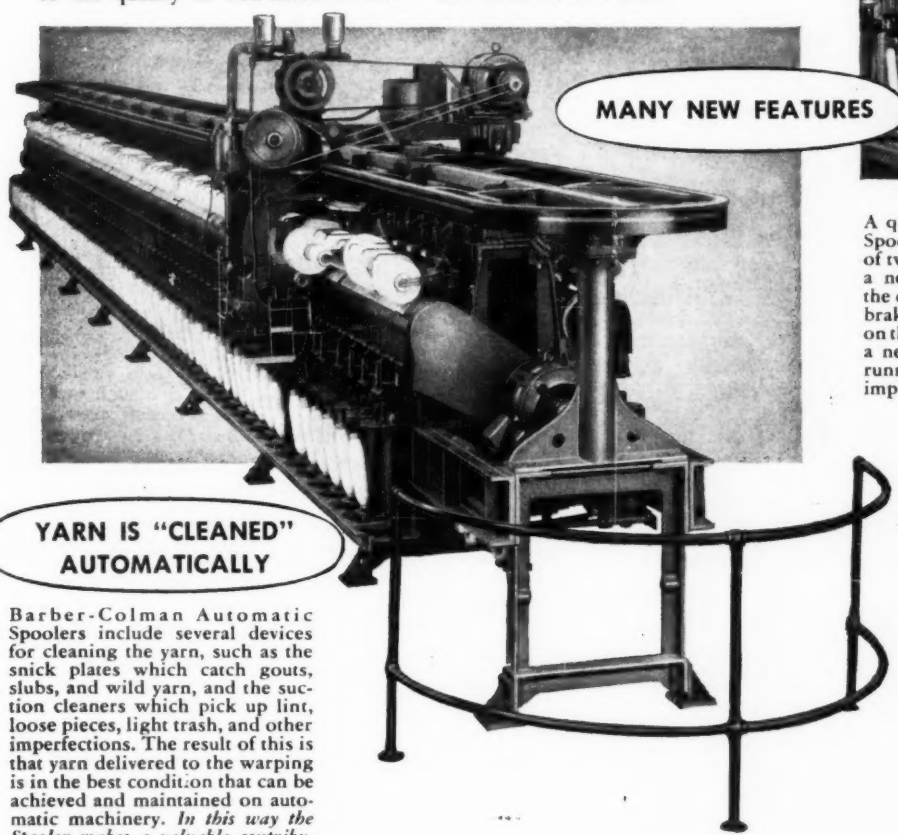
BARBER COLMAN

There is a difference in the warps — and in the way they weave

LARGE-PACKAGE AUTOMATIC SPOOLER

The new Barber-Colman Type "D" Spooler is designed to fill an important function in the new practice of using larger packages in the spinning, in the spooling, and in the warping or twisting. Users of spooling are familiar with the fact that a spooler cannot *add* anything to the quality or condition of the yarn, and must be arranged so as to damage or deplete the yarn as little as possible. Barber-Colman Automatic Spoolers have been noted for "air-friction" tension and other favorable features along this line — the new Type "D" machines retain all the proved advantages and have added some new ones.



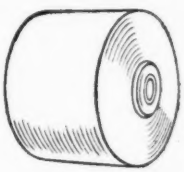


MANY NEW FEATURES

A quick inspection of the new Spooler will reveal: a new type of two-position bobbin holder, a new straight-line action on the cheese holders with built-in brakes, new cleaning devices on the frame and on the traveler, a new device for by-passing a running thread, and many other improvements . . .

YARN IS "CLEANED" AUTOMATICALLY

Barber-Colman Automatic Spoolers include several devices for cleaning the yarn, such as the snick plates which catch gouts, slubs, and wild yarn, and the suction cleaners which pick up lint, loose pieces, light trash, and other imperfections. The result of this is that yarn delivered to the warping is in the best condition that can be achieved and maintained on automatic machinery. *In this way the Spooler makes a valuable contribution to overall economy in the mill.*



TYPE "D" PACKAGE

The new, larger Type "D" cheese can be wound to hold as much as 6½ pounds. In 24s yarn, this will amount to 120,000 yards, or about 2½ times as much as the standard Type "C" cheese.

AUTOMATIC SPOOLERS • SUPER-SPEED WARPERS • WARP TYING MACHINES • WARP DRAWING MACHINES

BARBER-COLMAN COMPANY

ROCKFORD • ILLINOIS • U. S. A.

FRAMINGHAM, MASS., U. S. A. | GREENVILLE, S. C., U.S.A. | MANCHESTER, ENGLAND | MUNICH, GERMANY

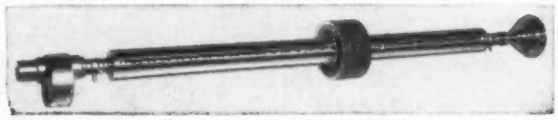
INDIA
Batliboi & Company
Forbes Street, Fort
Bombay, India

MEXICO
J. Rabasa
Isabel la Catolica 45-813
Apartado 7348
Mexico D.F., Mexico

BRAZIL
Quimanil S.A. Anilinas
e Representacoes
Rua Glicerio 537/547
Caixa 5658 e 3431
Sao Paulo, Brazil

JAPAN
Nippu Trading Co., Ltd.
Toa Kushin Bldg.
3-Chome Kitahama Higashiku
Osaka, Japan

BOZIL SYLVANUS ROY invented the Traverse Card Grinder in 1868, established the business that ever since has specialized exclusively in designing, manufacturing and maintenance of card clothing grinders. Every advance in the history of this important product such as worm traverse drive (1912), internal ball bearings (1950), has been originated here. Through over 85 years ROY has maintained the leadership that has made ROY GRINDERS first throughout the textile industry.



Sales Engineers in the South

William P. Cooper • Leon F. Frye

Southern Office and Plant

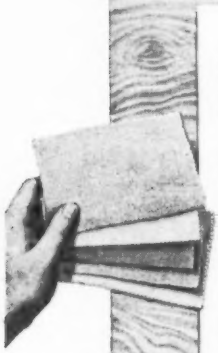
LINWOOD and SECOND AVE. • GASTONIA, N. C.

Telephone Gastonia 4-2126

B. S. Roy & SON COMPANY

WORCESTER, MASS. • GASTONIA, N. C.

WHAT'S YOUR PROBLEM?



See NOONE For Your Industrial Textile Requirements

SLASHER CLOTH
All weights and constructions supplied
All wool or part synthetic
Special chemical treatments

CLEARER CLOTH
All wool or cotton back

CARD CLOTHING FOUNDATION WOOLENS
Cotton warp or linen warp
All standard widths and weights

LAPPING CLOTH
Manufactured to exacting standards for uniformity
Both cotton warp and linen warp
Part synthetic available

ROLLER CLOTH
Complete range of types, sizes, and weights
All wool or part cotton

OTHER SPECIALTY WOVEN FABRICS
Developed at your request

NOONE INDUSTRIAL FABRIC DIV. KENWOOD MILLS

Peterborough, New Hampshire

The oldest manufacturer of woven industrial fabrics in America

NEWS ABOUT MILLS *(Continued)*

Standard - Coosa - Thatcher Co., National Plant, Rossville, Ga., has started up the first pilot plant for production of cyanoethylated cotton.

Stevens Linen Associates, Inc., Webster, Mass., has installed 40 wide looms for the manufacture of decorative fabrics, drapery, and upholstery goods. Dale G. Vander Voort has been named manager; Daniel Zimmerman has been named superintendent of the yarn division and Maurice Vezina head of the designing department.

Syntex Fabrics, Inc., Mooresville, N. C., has started the production of cotton shirting and dress goods. Initial operation will be with 60 box looms.

WOOLEN AND WORSTED MILLS

Andrew Worsted Mills, Central Falls, R. I., has purchased Clear River Mill, Bridgeton, R. I., for $26,000. The new owners plan to reopen the mill.

Ayers Ltd., Lachute Mills, Que., has installed a Gosselin felt washer.

Coats & Clark, Inc., Albany, Ga., has added a wool-spinning department for the production of hand-knitting yarns.

Faulkner Textile Associates, Inc., Billerica, Mass., has acquired the capital stock of North Billerica Co., North Billerica.

Georgia Rug Mill, Summerville, Ga., a subsidiary of Bigelow-Sanford Carpet Co., is erecting an addition to its main building and constructing a new power plant.

A. & M. Karagheusian, Inc., Albany, Ga., has awarded the contract to S. J. Curry Co., Albany, for a one-story addition that will contain about 25,000 sq. ft. The new addition will be used for increased capacity and warehouse service. The cost is about $400,000.

Lincolnton Mills, Inc., Lincolnton, N. C., is the new name of the former Webster Mills, Inc., which was chartered last April to engage in wool spinning. The company will operate in a new plant that will be constructed at Lincolnton.

Alexander Smith, Inc., Liberty, S. C., is installing equipment in the former Kayser plant. Daniel Construction Co. is building an addition to increase manufacturing space from 52,000 to 90,000 sq. ft.

SYNTHETICS MILLS

Belding Heminway Co., New York, N. Y., plans to construct a brick warehouse in South Hackensack, N. J., that will contain 45,000 sq. ft. of space. The building is scheduled to be completed in March, 1955.

Camp Mfg. Co., Richmond, Va., is planning to expand operations at its Wortendyke plant, Waynesboro, Va.

Elmore Corp., Spindale, N. C., has completed its three-year program of expansion that will enable the company to handle synthetic yarns, including twisting, plying, warping, and dyeing.

Hafner Fabrics of Canada (1954) Ltd., Granby, Que., is starting operations in a plant formerly operated by Verney Corp. of Canada Ltd. It is a subsidiary of Hafner Associates, Inc., New York, N. Y.

Rocky Creek Mills, Turnersburg, N. C., will change its name to Henkel Mill Co. The mill has converted from the manufacture of cotton yarns to the manufacture of coarse spun rayon for the carpet trade.

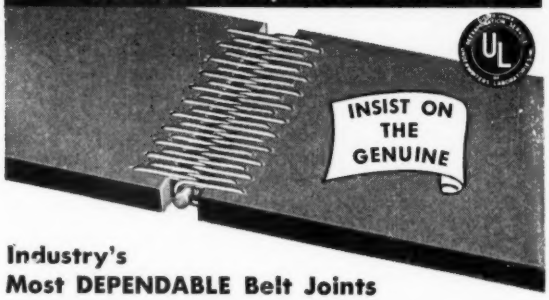
KNITTING MILLS

Bantam Tricot Mills Corp. has been formed in Hartford, Conn. Officers include Abraham Feinberg, president of the firm and chairman of Julius Kayser & Co.; A. Philip Goldsmith, vice president; Benjamin Hinerfeld, secretary.

Clipper

BELT LACING EQUIPMENT

For Belts and Tapes 1/16" to 3/8" thick



Industry's Most DEPENDABLE Belt Joints

Proven by use and comparison, Clipper Belt Hooks assure longest service. Made from uniformly high quality, fatigue resisting wire produced exclusively to meet our rigid specifications. For easy application and maximum uninterrupted service, use GENUINE Clipper Belt Lacers. There is a type and size for your needs.

Ask your Industrial Distributor for CLIPPER Products.

No. 9 Portable Lacer

CLIPPER BELT LACER CO.
Grand Rapids 2, Michigan

EMPIRE

REG. U. S. PAT. OFF.

TEXTILE MILL CRAYONS

IMPORTANT MEMBERS OF YOUR PRODUCTION TEAM . . .

Made by experts . . . after years of careful research . . . EMPIRE TEXTILE MILL CRAYONS meet the industry's most exacting requirements for textile marking and identification.

Every year, millions of these top-quality marking crayons join the production teams of textile mills across the nation.

Marking *counts* in efficient production. Count on EMPIRE TEXTILE MILL CRAYONS . . . First choice of textile experts everywhere! *Free marking guide gladly sent. Dept. T-8*

JUNIOR EMPIRE

EMPIRE TEXTILE MILL CRAYON

The American Crayon Company
Sandusky, Ohio — New York

CALDWELL TANKS—

First Choice of the Textile Industry!

Caldwell offers the industry a complete tank service, including solid Stainless and Stainless-lined wood tanks and tubs, of any shape or size.

If you're thinking of installing or replacing a tank, let our 60 years' experience in building high-grade tanks serve you. *Send for our catalog, today!*

W. E. CALDWELL CO., Inc.
2060 Brook St., Louisville, Ky.

Caldwell TANKS AND TOWERS

ROME SOAP MFG. CO.

MANUFACTURERS OF
Textile, Laundry
and
Special Soaps

WRITE US FOR SAMPLES AND QUOTATIONS

ROME, N. Y.

ALL STEEL ECONOMY BALING PRESSES

ALL SIZES FOR ALL PURPOSES

LARGEST LINE BUILT IN U.S.A.

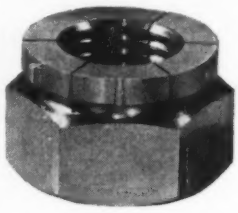
ECONOMY BALER CO., DEPT. J ANN ARBOR, MICH., U.S.A.

REPRESENTATIVES:

New York Office: 43 Water St.
Philadelphia Office: Drexel Bldg.
Terrell Machine Co., 1200 No. Church St., Charlotte, N. C.
Boston Office: 170 Summer St.
Other Sales and Service Branches in most Important Cities

one standard **FLEXLOC**

SELF-LOCKING NUT



covers temperature range to 550°F

Because they are all metal and require no auxiliary locking device, FLEXLOCS lock and stay tight even at higher temperatures. See your local industrial distributor for literature and samples or write STANDARD PRESSED STEEL Co., Jenkintown 35, Pa.

FLEXLOC LOCKNUT DIVISION **SPS**

JENKINTOWN ■ PENNSYLVANIA

COLOR MATCHING

DOESN'T HAVE TO BE A PROBLEM

See the ANALYTE COLOR COMPARATOR advertisement in your Textile World Fact File Issue, page 190.

The new ANALYTE COLOR COMPARATOR is the answer.

CROWN ENGINEERING AND SALES CO.

421 Hill Street Harrison, N. J.

VALUATIONS

ENGINEERING APPRAISALS

For All Valuation Purposes

CHAS. T. MAIN, INC.

Consulting Engineers

BOSTON, MASSACHUSETTS CHARLOTTE, NORTH CAROLINA

NEWS ABOUT MILLS *(Continued)*

Boshamer, Inc., will establish a knitting plant at Whitmire, S. C. The 30,000-sq.-ft. building cost $100,000 and was built by the citizens of Whitmire. Undershirts, T-shirts, and other knitted products will be made.

Burlington Mills Corp., Greensboro, N. C., plans a one-story addition to its hosiery mill at Harriman, Tenn. The cost is estimated at $300,000. Bids have been asked, and the award will be made soon. The company will also build a hosiery plant near Franklin, N. C., that will cost $3,000,000. Production is scheduled for next spring.

William Carter Co., Barnesville, Ga., is building a new one-story knitting plant, 100x200 ft., and a two-story-and-basement bleach house, 150x112 ft. For additional cutting and sewing equipment, a second story will be built on the present warehouse.

Galax Hosiery Mills, Inc., Galax, Va., a new mill operating under an old name, is now installing machinery for the manufacture of children's and infants' hosiery. The plant is housed in a building formerly occupied by Wonderknit Corp.

Hadley Sweater Corp., Asheville, N. C., has ordered three new knitting machines from Bentley Knitting Machinery Organization, Providence, R. I.

Hanes Hosiery Mills Co., Winston-Salem, N. C., plans to construct a two-story, air-conditioned building to adjoin its present seamless plant. The addition will enlarge the company's manufacturing facilities by 100,000 sq. ft.

Hayward Hosiery Co., Ipswich, Mass., has been acquired by Strutwear, Inc., Minneapolis, Minn., which will operate it as an affiliate interest.

Independence, La. — The Board of Aldermen has let the contract to Abraham Construction Co., DeRidder, La., at $42,903, for the construction of a one-story building to be occupied by Alden Mills, Inc., New Orleans, La.

Laurens Hosiery Mills, Laurens, S. C., has installed eight modern full-fashioned knitting machines to replace eight of its older machines.

Main Knitting Mills Ltd., Montreal, Que., is building a two-story-and-basement addition, 58x25 ft. The cost is estimated at $30,000. The architect is Reuben Fisher, and the general contractor is Jack Polansky Construction Co., Montreal.

DYEING AND FINISHING PLANTS

Athol Mfg. Co., Athol, Mass., has purchased a 90x274-ft. building at Butner, N. C., from the State of North Carolina for $15,000. The company plans to begin the coating of cotton sheeting as soon as the building can be rebuilt and converted.

Bangor Mills, Inc., is building a two-story addition to its Penn Argyl, Pa., plant that will add 15,000 sq. ft. to its finishing department.

Belmont Converting Co., Belmont, N. C., will modernize its filtering plant and expand its heating system.

Commercial Dyers & Bleachers, Montreal, Que., plans to erect a one-story 24x24-ft. extension at the corner of Port Royal and Urbain Sts. R. Fisher, Montreal, is the architect.

Galli Dyeing Co., Inc., Carlstadt, N. J., has been incorporated for $100,000.

Rock Hill Printing & Finishing Co., Rock Hill, S. C., has laid out a $2,000,000 expansion program and has obtained conditional permission to discharge an additional 2,000,000 gals. of waste into the Catawba River, pending the installation of a water-treatment plant.

Southern Bleachery & Print Works, Inc., Taylors, S. C., has let the contract to Batson-Cook Co., West Point, Ga., for a mill addition, including alterations and improvements. Cost will be about $3,000,000.

Universal Dye Works, Inc., Philadelphia, Pa., has completed alterations to handle its additional sweater-dyeing business.

NEWS about MEN

Clyde C. Adkins has retired as shift overseer of weaving at the Franklinton, N. C., plant of Burlington Mills Corp.

William B. Anderson has retired as chairman of the board of Bibb Mfg. Co., Macon, Ga. He will continue as a director. **Charles C. Hertwig** has been named chairman in addition to his duties as president.

David Arthur has been named manager of Mill A at Goodall-Sanford, Inc., Sanford, Me.

Jerome W. Blum, Abbot J. Copeland, Melvin H. Deutsch, Joseph W. Houth, Harold Rosner, and **Lewis Sollfrey** have been elected vice presidents of United Merchants & Manufacturers, Inc., New York, N. Y. **Sanford S. Agate, Edmond P. Bixer,** and **Jack B. Olstein** have been elected directors of the company.

George Bolton has been named superintendent at W. Lowenthal Co., Inc., Rossville, Ga.

Bernard Brady has been named manager of the Lewiston, Me., plant of Pepperell Mfg. Co., succeeding **J. Arthur Cloutier,** resigned. Mr. Brady continues as manager of the Biddeford, Me., plant.

Ralph H. Carter has been named vice president in charge of rayon-yarn production at Beaunit Mills, Inc., New York, N. Y. **Dr. H. Hoffman** has been named vice president and technical director in the rayon-yarn division, and **Rudolph S. Bley** has been named assistant secretary.

L. E. Cash has been promoted to superintendent of weaving and slashing at the Spartanburg, S. C., and Douglasville, Ga., plants of Glendale Mills, Inc. **W. M. Taunton** has been named overseer of weaving and slashing at the Douglasville, Ga., plant.

A. PHILLIP GOLDSMITH has been elected president of Julius Kayser & Co., New York, N. Y.

R. E. Covington has been named executive director and executive vice president of Allendale Mills, Inc., Mt. Airy, N. C.

Richard M. Dorian has been named manager of the Spinning Div. of A. & M. Karagheusian, Inc., Roselle Park, N. J., succeeding his father, the late **Dikran A. Diradourian.**

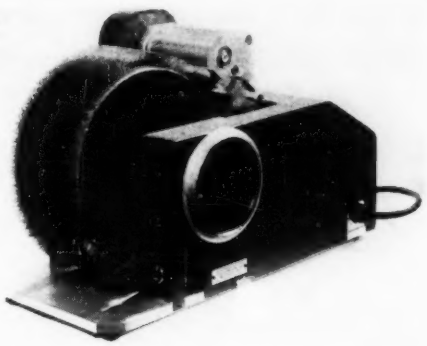
Neil Dow has been elected executive vice president of Pacific Mills, Boston, Mass., succeeding the late **Paul Groover.** He will be located in the New York, N. Y., office.

Kenneth H. Doyle has been elected superintendent of Hayward-Schuster Woolen Mills, Inc., East Douglas, Mass., succeeding **W. H. Mellor.**

W. S. Egekvist has been named general manager of the newly created Infants' & Children's Div. of Julius Kayser & Co., New York, N. Y.

George M. Elliott has resigned as a vice president of Avondale Mills, Inc., Sylacauga, Ala.

Edward H. Emmott has been named superintendent at Glasco Finishing Co., Glasco, Conn. He succeeds **Philip Howard.**



MECHANICAL COTTON BLENDER

This instrument was developed by the Cotton Branch, Production and Marketing Administration, U. S. Department of Agriculture, Washington, D. C. The Blender has now been redesigned for marketing commercially.

Effective blending of cotton samples is now assured with this new machine which will handle 10 gram samples. The new method takes about one hour to make 8 samples. Hand methods take 20 times as long for comparable weight samples.

Principal feature of the motor-driven mechanical blender is an adjustable feed plate in combination with a fluted feed roll that feeds a sample into a rotary blending cylinder covered with stripper-wire clothing. The feed plate extends part way under the feed roll, its nose projecting toward the blending cylinder. An extension plate, hinged to the bottom of the feed plate, provides a means of adjusting for long-staple cotton (over 1 in.).

CSI CUSTOM SCIENTIFIC INSTRUMENTS, INC.
541-543 Devon Street Arlington, New Jersey
MANUFACTURERS OF CUSTOM-BUILT LABORATORY EQUIPMENT

Processed Synthetic Fibers

CUT STAPLE OUR SPECIALTY

NYLON • ORLON
DACRON

Mill: Woodville, Rhode Island

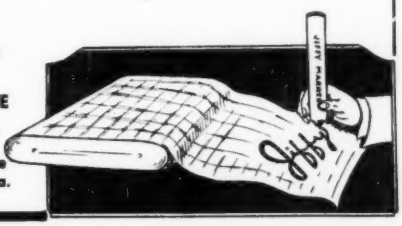
EISENBERG *Fibers, Inc.*

173 Hudson Street New York 13, N. Y.
CAnal 6-4290, 4291

JIFFY TEXTILE MARKER

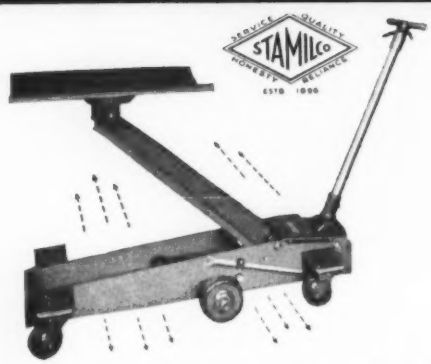
For use on rayon, cotton and woolen material. Dye-resistant and boil-proof, permanent, inexpensive, quick and easy to use.

For information address
JIFFY TEXTILE MARKER CO.
406 W. School Lane
Philadelphia 44, Pa.



For more information, write direct or use Reader Service post card. 217

"Standard" HYDRAULIC LIFT TRUCKS



"STANDARD" Hydraulic Lift Trucks are ideal for handling Loom or Warp Beams, Rolls of Cloth, Plastic or Paper, Coated Fabrics and many other items.

Sturdily constructed of steel, yet they are compact and easily handled where there are narrow aisles and posts. The Cradle supporting the load swivels on its base, permitting easy lowering into position by gradual hydraulic action.

The Eccentric Center Shaft and Swivel Wheels permit the truck to be easily moved laterally or at right angles into position and the Finger Tip Control allows quick, safe and easy lowering of the load.

Write for Descriptive Folder

STANDARD MILL SUPPLY CO.
1064-1080 MAIN ST., PAWTUCKET, R. I.

Industrial Engineers
SPECIALIZING IN TEXTILES For OVER ONE-THIRD OF A CENTURY

COST SYSTEMS
PAY ROLL CONTROLS
SPECIAL REPORTS
WORK-LOAD STUDIES
COST REDUCTION REPORTS

Ralph E. Loper Co.
GREENVILLE, S. C. - Tel. 2-3868
FALL RIVER, MASS. - Tel. 6-8261

When You Change Your Address . .

It will help us keep your copies of TEXTILE WORLD coming to you each month if you will promptly advise us of any change of address.

Director of Circulation
TEXTILE WORLD,
330 West 42nd St., New York 18, N. Y.

Please change the address of my Textile World subscription.

Name .....
Old Address .....
New Address .....
New Company Connection .....
New Title or Position .....

NEWS ABOUT MEN *(Continued)*

Russell English has been named dyer at Shawmut Woolen, Inc., Stoughton, Mass.

F. Felber has resigned as overseer of weaving at the Warrenton Woolen Co., Torrington, Conn. **A. Binder** has resigned as overseer of dyeing.

Walter E. Gallant, Jr., has been appointed technical and quality-control manager of Textron-Southern, Inc., Anderson, S. C.

Howard Gilman has been named superintendent at Goodall-Sanford, Inc., Sanford, Me., succeeding **Kenneth Doyle.**

Benjamin Heinerfeld has been elected to the newly created position of executive vice president of Julius Kayser & Co., New York, N. Y.

Coy C. Humphrey has resigned as chairman of the board of Munsingwear, Inc., Minneapolis, Minn. **A. G. McConnell** has been named chief executive officer in addition to his duties as president.

B. C. Hunnicutt has been named superintendent of production and maintenance at Atlantic Cotton Mills, Macon, Ga.

Sidney Johnson has been named superintendent of Southwell Combing Co., N. Chelmsford, Mass. **Ernest Coupe** has been named assistant superintendent.

Arthur B. Kinne has been named general manager of Monument Mills, Inc., Housatonic, Mass. **John W. Mason** has been named general superintendent.

Noel Ladouceur has been named general foreman of the woolen unit of Amoskeag-Lawrence Mills, Inc., Manchester, N. H. He succeeds **Peter Morin,** resigned.

John D. Lavigne has been named plant manager at Varel Mills, Inc., Winchester, Va.

Joseph T. Leary has been named preparatory superintendent at Hess, Goldsmith & Co., Wilkes-Barre, Pa.

Albert H. Levi has been named general manager of Ace Knitting Mills, Inc., New York, N. Y.

Dan Melton has been named superintendent of Walton Cotton Mill Co., Monroe, Ga.

William Midgley has been named resident manager of the Puritan Mills of American Woolen Co., Plymouth, Mass. He succeeds **Ernest A. Eckert.**

C. C. Moon has been named to head the spun-rayon and filament-rayon manufacturing division of Associated Textiles of Canada Ltd., Louiseville, Que.

W. H. Moore has been appointed superintendent of the Ladlassie and Riverside plants of Textron-Southern, Inc., Anderson, S. C. He succeeds **C. H. Ponder,** resigned.

George B. Morgan has been elected superintendent of Piedmont Hosiery Mills, Hickory, N. C.

NORMAN TARNOFF (left) has been named vice president in charge of sales and ALLAN E. SHORE (right) has been named vice president in charge of automotive, carpet, transportation, government, and industrial fabrics at Sidney Blumenthal & Co., Inc., New York, N. Y.

NEWS ABOUT MEN *(Continued)*

Paul Neumann has been elected a vice president of Ilona Worsted Mills, Inc., Millville, Mass.

Lawrence G. Reid has been elected assistant secretary of Washington Mills Co., Winston-Salem, N. C.

Buford Robbins has been appointed superintendent of Clover Spinning Mills, Clover, S. C.

Herbert Siegmund has been named superintendent of finishing at the Lymansville Co., Providence, R. I.

Herbert J. Smith, Jr., has been elected president of Charlottesville Woolen Mills, Charlottesville, Va.

John C. Standish has been elected executive vice president of Albany Felt Co., Albany, N. Y.

Hoyt Thompson has been named assistant overseer of the carpet-sewing department of the Valway Plant of Callaway Mills Co., LaGrange, Ga.

HENRY D. GRIMES, assistant director of research and development of American Woolen Co., Lawrence, Mass., and a consulting editor for TEXTILE WORLD, has been named director of research and development for American Woolen Co., with headquarters at North Vassalboro, Me.

OBITUARY

C. J. Bostain, 60, overseer of Cannon Mills Co., Plant No. 1, Kannapolis, N. C.

Clarence J. Brown, 57, general superintendent of Blue Ridge Textile Co., Bangor, Pa.

Abb Bryant, 49, superintendent of Geneva Cotton Mills, Geneva, Ala.

Frank T. Byrne, 74, president of Thomas F. Byrne Corp., Phoenixville, Pa.

T. W. Carter, retired overseer of Cosmos Imperial Mills Ltd., Yarmouth, N. S.

John H. Daley, 58, assistant controller of Sidney Blumenthal & Co., New York, N. Y.

Clifford O. Eccleston, Sr., 59, an overseer at Berkshire Fine Spinning Associates, Providence, R. I.

Robert E. Keller, 31, cardroom overseer at Dover Yarn Mill, Shelby, N. C.

Willett Millspaugh, 88, president of Humboldt Dye Works, Brooklyn, N. Y.

Robert S. Phillips, 68, president of Phillips Knitting Mills, Inc., Royersford, Pa.

Edward B. Ryder, Jr., 56, plant manager of Apponang Co., Warwick, R. I.

Emil J. C. Schulze, 77, resident manager of the Ayer Mills of American Woolen Co., Lawrence, Mass.

George T. Seckel, Jr., 74, a director of Waterville Textile Mills, Inc., Waterville, N. Y.

Edward Olin Smith, 63, vice president in charge of export operations at Universal Winding Co., Providence, R. I.

Joseph R. Smith, 81, president of Salt Lake Knitting Works, Salt Lake City, Utah.

Edward W. Swift, 89, chairman of the board of Muscogee Mfg. Co., Columbus, Ga.

Robert R. Templeton, 64, overseer of spinning at Springs Cotton Mills, Lancaster, S. C.

William E. Williams, superintendent of Avondale Mills, Sylacauga, Ala.

A complete steam plant backed by undivided responsibility • Shipped completely assembled • More than 80% thermal efficiency guaranteed • 4-pass design provides 5 sq. ft. of heating surface per b.h.p. • Built-in induced draft eliminates need of expensive chimney • Simple installation • Clean, quiet operation • Heavy-duty construction assures long-lived dependability

Superior Steam Generators are manufactured in 18 sizes from 20 to 600 b.h.p. for pressures up to 250 p.s.i. or for hot water heating.

For complete details, write for Catalog 618

SUPERIOR COMBUSTION INDUSTRIES
Factory: Emmaus, Pa.
Exec. Offices: Times Bldg., Times Sq., New York N. Y.
SUPERIOR STEAM GENERATORS

Custom-made SHUTTLES

Watson-Williams specializes in custom-made shuttles, manufactured to your exact requirements, both for C & K and Draper Looms, and with all of the outstanding shuttle improvements now being made by the Shuttle People.

WATSON-WILLIAMS Mfg. Co.
Millbury, Mass.

SOUTHERN REPRESENTATIVES:
Watson & Desmond, Box 1954, Charlotte, N. C.
John Wyatt, P. O. Box 701, Greensboro, N. C.
Ray A. Norman, P. O. Drawer 779, Greenville, S. C.

NORTHERN REPRESENTATIVES:
Guy C. Burbank, 32 Beaconsfield Rd., Worcester 2, Mass.
Sutton M. Ebert, P. O. Box 7144, Elkins Park, Philadelphia, Pa.

The **Kuljian** *Corporation*
RAYON PLANTS & TEXTILE MILLS
KULJIAN
• **DESIGN**
• **CONSTRUCTION**
• **MANAGEMENT**
1200 N. BROAD ST., PHILA. 21, PA.
MEXICO CITY • CARACAS • MADRID • ROME • ATHENS • TOKYO • CALCUTTA

For more information, write direct or use Reader Service post card. 219

SALE OF SURPLUS MACHINERY

ROBBINS MILLS INC.

CLARKSVILLE, VIRGINIA

All machinery new 1947-1954. Machinery is of the most modern type with many extra refinements of design and construction. Act fast—machinery must be moved immediately.

2—66" Hinnekin Boil-off Machines with stainless steel conveyor chains and rods, stainless steel wetting out tanks, 60" diameter stainless steel pre-setting cylinder, blanket arrangement, variable speed drives, pump, motors, etc.

1—70" Van Vlaanderen 7-drum Setting Machine with one main Reeves drive for driving the machine and connected to three individual Reeves drives for controlling the speed of the cylinders for shrinkage control.

1—Burlington Engineering enclosed pressure boil-off, bleach and dyeing machine with 2—69" stainless steel beams, pump, motor and mixing tank.

1—Burlington Engineering 45 pound pressure.

1—Van Vlaanderen 60" Vertical Extractor with motor and safety guard.

12—Van Vlaanderen Tensionless, constant speed Dye Jigs, 60" wide—some enclosed—some with automatic stopping and reversing mechanism.

2—National—16 Fan Model "F" for drying or curing piece foods. These dryers each HAVE TWO 84" INDEPENDENT Conveyors each having its own 6 to 1 variable speed drive. Equipped with 2 sets of reels at each end, automatic conveyor stop, delivery and arranged for both folding and beaming of each line of cloth independently and automatic temperature controls for three zones, etc.

1—Van Vlaanderen 66" wide 60' long Super construction type 726 tenter frame complete with Vari drive, clips, take up, guiders and 30' enclosure.

6—Van Vlaanderen decating machines 45" and 60" (cloth widths) complete with motor drives, some with single vacuum and some with double vacuum pumps.

1—Parks & Woolson 72" sueding unit complete with steam brushing and 3-blade shearing machine.

1—Singeing machine with 2—72" Burners, generator and accessories with Reeves vari speed drive.

2—Van Vlaanderen 19 compartment (figure 8) GL-Boil-off scouring and washing units, with TYPE 315 SMO STAINLESS STEEL tanks, partitions, oval reels, pleater, circulating and feed headers, valves, instantaneous heaters, circulating pumps, and driven from a Reliance VS DC Textile Range Drive with DC motors, controls, etc.

1—Van Vlaanderen 66" wide 40' long type 611—tenter frame, clips, Reeves and motor drive, and 2-roll 3 ton pad driven thru lineshaft from main drive.

2—Van Vlaanderen 54" embossing machines Reeves vari speed motor drive.

1—John Verduin 54" embossing machine.

1—Van Vlaanderen 19-roll 64" wide reversible type button breaker machine with motor drive.

1—Van Vlaanderen 3-roll 60" wide Calender, having 2 wool felt and 1 steel roll, hydraulic pressure arrangement and motor drive.

1—H. W. Butterworth 3-roll 72" wide horizontal type Calender with motor drive.

2—Van Vlaanderen raw goods folder.

2—Progressive Machine Company 64" wide inspection machines.

1—Nojart all wood standard model Test washer.

1—Rodney Hunt Steadfast molten metal lab machine.

1—Bausch Lomb Microscopic camera.

1—Scott Tester Inc. Seni-graph for testing yarn.

1—Afred Sater Co. precision twist tester.

1—M.S.A. Nitrogen Dioxide Detector Kit.

1—Todd Spectranal Model A.

1—Conco Heat Conductuity apparatus.

1—Bausch & Lomb mechanical feed (5 amp) arc lamp.

1—Microtone R. Jung Heidelberg Germany.

2—Hellige Aqua tester.

1—Skein Winder.

3—Tacking Machines.

3—Detacking Machines.

CONTACT

VAN VLAANDEREN MACHINE CO.

370 Straight Street, Paterson, N. J., phone Sherwood 2-0800

or

PARROTT AND BALLANTINE

510 South Carolina National Bank Bldg., Greenville, S. C.

CLASSIFIED SEARCHLIGHT SECTION ADVERTISING

EMPLOYMENT • BUSINESS • OPPORTUNITIES • EQUIPMENT—USED or RESALE

UNDISPLAYED RATE:

$1.20 cents per line, minimum—3 lines. To figure advanced payment count 5 average words as a line.

POSITION WANTED undisplayed aadvertising rate is one-half of above rate, payable in advance.

PROPOSALS, $1.20 a line an insertion.

INFORMATION:

BOX NUMBERS care of publication count as 1 line additional in undisplayed ads.

DISCOUNT of 10% if full payment is made in advance for four consecutive insertions of undisplayed ads (not including proposals).

EQUIPMENT WANTED OR FOR SALE Advertisements acceptable only in Displayed Style.

DISPLAYED RATE:

The advertising rate is $12.65 per inch for all advertising appearing on other than a contract basis. Contract rates quoted on request.

AN ADVERTISING INCH is measured ⅞ inch vertically on one column, 3 columns—30 inches —to a page. T.W.

WANTED GENERAL MANAGER

for worsted mill in south, fully experienced in spinning fine count knitting yarns, American system, wool and synthetic fibers, from top or converter. Give full details. Confidence will be respected. Appointment for interview will be prompt.

P-4543, Textile World
330 W. 42nd St., New York 36, N. Y.

REPLIES (Box No.): Address to office nearest you
NEW YORK: 330 W. 42nd St. (36)
CHICAGO: 520 N. Michigan Ave. (11)
SAN FRANCISCO: 68 Post St. (4)

POSITION VACANT

SOUTH AMERICAN textile mill needs qualified dyer and finisher with experience on all types of synthetics both woven and tricot. Small but up to date dyehouse including electric heat setting tenter frame and resin finishing equipment. Give full resume of past experience and employment in first letter. P-4611, Textile World.

SELLING OPPORTUNITY OFFERED

SALESMAN WANTED: Textile machine parts. No objection to non-conflicting lines. For New England territory and Middle West. Reply SW-4675, Textile World.

POSITIONS WANTED

TRICOT KNITTER Mechanic thoroughly experienced in all phases of tricot operation, analyzing and designing fabrics, quality control, experienced needle man, available, anywhere. PW-4739, Textile World.

THROWING MILL Supt. or manager. Twenty-two years experience. Quality throwing rayon, nylon, dacron for hosiery tricot, lace and speciality work. Thorough knowledge quality control, cost and inventories. Labor relations and references excellent. Willing to go anywhere. PW-4656, Textile World.

SUPT. OR Overseer of weaving available anywhere in the States or will take a contract for Foreign Service. Experience consists of 15 years Supervision on Draper loom and crompton & knowles looms, plain and fancy weaves, cottons and synthetic fibres. Have some preparation and slashing experience. State salary and benefits in letter. PW-4647, Textile World.

TEXTILE ENGINEER recent graduate of L.T.I. desires position in production & management or development. Working knowledge of all processing from raw fibre to finished fabric, natural & synthetic fibers. N. E., N. Y. area preferred. PW-4687, Textile World.

(Continued on page 222)

New "SEARCHLIGHT" Advertisments

received by December 16th will appear in the January issue, subject to space limitations.

Classified Advertising Division
TEXTILE WORLD
330 W. 42nd St., New York 36, N. Y.

WANTED

MAN TO SET UP FOR MANUFACTURE OF NON WOVEN FABRICS (BONDED FIBRE).
SALARY: HIGH

P-4504, Textile World
330 W. 42 St., New York 36, N. Y.

FOR SALE

(Additional For Sale Advertisements on pages 222-225)

SPINNING MILL EQUIPMENT

28 H&B Cards, 37" & pickers to match—CHEAP
2 Roving Bobbin Strippers 2 filling bobbin strippers
4 #34 S/L Air Filters 2-250 gal. size tanks
2 H&B Twisters 5½" gauge, 4½" ring, metal creel
2000 2¼" type R lubricated twister rings & holders

LOOM PARTS

3,000,000 Sliding Bar Dropwires ⅜" x .008" hairpin type
3,000 Sliding Bar Rods for Draper stop motions
1,500 Draper Pickers, Denman & Dayton for E,K,D looms, NEW
1,000 Roper let-offs
400 Loom Beam Heads, L69882, 22" dia., 130T, 8 P
100 Loom Beams, NEW, L69100, 24" dia., 120T, 6 P
329,500 10" Duplex Heddles 16/85 Cadmium, NEW ⅓ off
196,500 14" Straight Heddles 18/95 Nickel NEW ⅓ off
1,500 Stafford thread cutters, complete with box front
1,000 New and rebuilt loom motors, ½, ¾ 1 hp, 220-550V

LOOMS—ALL TYPES

S-3, S-5, 6C, X, XK, XD, X2, K, D, E—*Send your requirements*

MACHINERY SALES CORPORATION, P. O. Box 560 NEW BEDFORD, MASS.

SEARCHLIGHT Equipment Spotting Service

This service is aimed at helping you, the reader of TEXTILE WORLD, to locate used and surplus new textile machinery and equipment not currently advertised. (This service is for user-buyers only.) No charge or obligation.

First, read the dealer ads on the following pages. A 5-minute study may locate the equipment now.

Second, send in the specifications of the equipment wanted on the coupon below, or on your own company letterhead, to

Searchlight Equipment Spotting Service
c/o Textile World, 330 W. 42nd St., N. Y. 36, N. Y.

Your requirements will be brought promptly to the attention of the used equipment dealers advertising in this issue. You will receive replies directly from them.

Searchlight Equipment Spotting Service
c/o Textile World, 330 W. 42nd St., N. Y. 36, N. Y.

Please help us locate the following used equipment:

.....

.....

.....

NAME ..... TITLE .....

COMPANY .....

STREET .....

CITY..... ZONE..... STATE.....12/54

LIQUIDATION SALE

OF THE GOSNOLD MILLS, NEW BEDFORD, MASS

Opening—6 Lines—Blenders, Bale Breakers, Superior Cleaners and Pickers, Age 1946.
135—40" Cotton Cards, Saco Lowell, Saco Pettee and H&B, with card stripping and cleaning system.
32—Whitin Model D2 Combers.
24—H&B American Slubbing and Roving Frames.
53,000—Spindles Whitin Long Draft, Whitin Super Draft and Saco Lowell Roth Long Draft Spinning.
74—Whitin and H&B Twisters, 240 spindles each.
3—Barber Colman Spoolers, Type C, Model KK, 252, 306, 342 spindles, age 1946-50-51.
3—Barber Colman High Speed Warpers, magazine cone creels, age 1944.
6—Foster Model 102 Cone Winders, 120 sp. each, age 1952.
102—Spindles Whitin Schweiter Winders, auto. bobbin loaders, age 1940-50.
6—Abbott Automatic Quillers, 120 sp. each, auto. bobbin hoist, pin board unloaders, age 1953.
2—Terrell Bobbin Strippers, Type L, Model A3, age 1951.
2—Johnson Rayon Slashers, 7 S/S drums, Brown controls.
7—Saco Lowell Cotton Slashers, 2 cyl., 60" headway, Brown controls.
2—Cocker High Speed Warpers, magazine creels.
240—Draper XK Looms, 50" R.S., 5 harness spring tops, mtd. dr., rebuilt 1952.
168—Draper XK Looms, 50" R.S., 25 harness dobby, mtd. dr. age 1940.
96—Draper XD Looms, 54" R.S., 25 harness dobby, ind. mtr. dr., age 1942.
240—Draper XD Looms, 54" R.S., 25 harness dobby, ind. mtr. dr., age 1947-49.
158—Draper Looms, 40", completely hooked up, 400 hook jacquard heads.
600—C&K Model C8 Looms, 48"-64", 4x1 box, 25 harness dobby, ind. mtd. dr., age 1940-48.

Telephone No. CO 7-1591

REPUBLIC TEXTILE EQUIPMENT CO.
40 WORTH STREET NEW YORK CITY
REFINANCING · APPRAISALS · PURCHASE · SALE · LIQUIDATION OF MILL PROPERTIES

LIQUIDATATION SALE

1—set 14 S. S. Dry Cans 60"x23"—$2700.00
1—set Mt. Hope Electric Eye Guides
1—40' x 60" V. V. Tenter Frame, closed gears, S. S. clips
1—set Mt. Hope Guides with adjustable stands
24—Spindles (Whitin Schweiter) automatic quilling—$110.00 per spindle
1—Johnson 7 can Slasher—$1200.00
4—Werner 50" S. S. Jiggs—late model
1—V. V. 60" S. S. Jigg
1—Werner 60" S. S. Jigg
1—60" Brushing Machine—$350.00
1—3 roll 68" Hydraulic 30 ton Calender—$4500.00
1—Hinnekens Boil-Off
1—V. V. 54" Embosser—2 roll—$1800.00
1—10' S. S. Dye Beck—$600.00
1—V. V. 48" Decatizer, Pump, Motors & Blanket—$1500.00
1—8' S. S. Dye Beck—$500.00
1—60" 2 rubber roll Quetch with baloney roll expander
1—Merrow Sewing Machine 60-3D.B. table & motor Beamers 50" to 65"
1—63" Progress.ve hyspeed Exam. & Measuring Machine with reverse—$500.00
1—60" Hercules Extractor—$600.00
1—V. V. 50" Scutcher—$600.00
1—Palmer 63"-steam jacketed, 3 B. B. Reeves—$1500.00
3—Textile Squeeze Sets, 96" wide, 2 rubber rolls 19" & 12" Diam. roller bearings.

A & M BLANK CO., INC.
301-313 East 22nd St. (at 7th Ave.) Paterson, N.J.
SHerwood 2-1367-8.

FOR SALE

18—Luther and Morrison Thread Glazers
5—Obermaier 300# Stainless Steel Package Dyers
2—Obermaier 100# Stainless Steel Package Dyers
1—Proctor & Schwartz 4 Truck Package Dryer

James E. Fitzgerald 10 PURCHASE ST., FALL RIVER, MASS.
Telephone 8-5616
SPECIALIZING IN BLEACHING, DYEING AND FINISHING MACHINERY SINCE 1920

POSITIONS OPEN

We can place—MANAGER nar. fab. plant; mgr. knit. outerwear mill; woolen cloth supt.; worsted yarn supt.; supts., overseers and fixers for garnetting; supt. card., comb., scour. French system; weav. supt. jacquard broad elastic fabrics; asst. supt. reworked wool plant; worsted and synthetic yarn fabric designer; asst. supt. woven label plant.

OVERSEERS for plush finish.; French comb. and gilling; woolen finish.; woolen and worsted card.; lace dye. and finish.; wet and dry finish. knit. fabrics; corduroy finish.; sewing on power sewing machines; dye. and finish. knit. tricot goods (So. Am.); silk thread finish.; carding French system mill. Second hand wool. card.

CHEMISTS and laboratory men for mills, also for selling and demonstrating; tex. graduates with or without mill experience; time study men; sportswear plant mgr.; salesman to sell mechanical equipment in North and South Carolina; salesman to sell wool and garnetts New Eng. territory; cost accountant.

ELECTRICAL and MECH. ENGINEERS; machine designers; industrial engineers; mach. printer; supervisory trainee, tex. schl. grad.; work glove salesman; several knit. mach. fixers; Axminster loom fixer; fixer-foreman silk thread finishing; wool sorter-grader; expert Tompkins mechanic; pile fab. loom fixer; woolen dresser tender.

If you are available for a good paying position in the textile field, it will pay you to have your application in our files. We are receiving more inquiries and placing more men than for several months. Negotiations are confidential. No fee to be paid unless you accept employment through our Service.

CHARLES P. RAYMOND SERVICE, Inc.
294 Washington St. Boston 8, Mass.
Phone: LIberty 2-6547
Over 55 Years in Business

LIQUIDATION CASUALTY

A man with 30 years of experience in cotton and synthetic weaving mills, is seeking a new connection with a reliable firm where diversified experience as overseer, supt. instructor, trouble shooter, production mgr., quality control, liaison would be of value to a prospective employer.

Full information from,

FORTUNE PERSONNEL SERVICE
18 East 41st Street, New York City

POSITIONS WANTED

(Continued from page 221)

KNITTER-MECHANIC, highly trained, experienced on knitted curtains, pudel-clothe, imitation of astrachan, looprugs, wishes to relocate. PW-4567, Textile World.

JUST ONE break! Who needs a thoroughly experienced Textile Technician in worsted and woolen? Over 20 years experience as stylist for men's wear, wearing supervisor, techn. director and woolen blender in Europe and So. America. Excellent references seeking opportunity as assistant. PW-4698, Textile World.

RECENT PTI graduate desires position with a good future being willing and able to work towards that goal. Experienced in sales and standardization work. PW-4697, Textile World.

CORDAGE SALES. Former mill superintendent. Ten years exp. in Product development desires sales or sales—manf. Liaison position. PW-4470, Textile World.

TEXTILE GRADUATE in cotton manufacturing. Five years mill experience in physical testing and quality control work. Wants to relocate. Married. PW-4532, Textile World.

MANAGER-EXECUTIVE. Thorough experience in manufacture of cotton, nylon, rayon, etc., garments. Now employed but will relocate with garment industry anywhere. PW-4709, Textile World.

CHEMIST-DYER, 8 years experience, mill and chemical man. PW-4728, Textile World.

TECHNICIAN-KNITTER Mechanic-Mechanist. Highly trained experienced, inventive ability, wishes to run knitting mill or machine shop. Will relocate. PW-4750, Textile World.

For Sale
TWO FULL FASHIONED RIB COTTON'S FRAMES

12 Divisions from Kiddier Hosiery Machine Builders Nottingham to be sold for producing pullovers or cardigans—14 and 16 Gauge—Perfect Condition.

FS-4736, Textile World
330 W. 42 St., New York 36, N. Y.

ALMOST NEW MACHINERY
NOW AVAILABLE AT USED PRICES!

20—U. S. TEXTILE D.D. 1952-1954 HEADLESS PKGE. TWISTERS

4 Machines 1954 Model; 12 Machines 1953 Model; 4 Machines 1952 Model

Face Drive Double Deck Twisters, 184 spindles each, 8" spacing, equipped with stainless steel balloon separators, ball bearing idlers, mechanical stop motion, spindle lockout breaks, tapered and attachments and revolving tension rods with a nyloln pirn spindle (satisfactory to twist from pirns), equipped with face drive Collins slug catchers with 2 Vertical 5 H.P. 1800 RPM Motors. Almost new and brand new headless package tubes and nyloln all bakelite pirns with machines, as well as bobbin racks and other auxiliary equipment.

100—UNIVERSAL and FOSTER NYLON CONERS

Roller bail pineapples, stainless steel emulsion throughs and rolls, L-Drive. Anti-wear tensions. Gear gain.

10,000 SPINDLES ½ LB. PKGE. ATWOOD TWISTERS

Motorized. Some as late as 1950. Complete with bobbins and auxiliary supplies.

10—STANDARD FLETCHER 15'8" RIBBON LOOMS

Heavy duty Cam motions. Motorized. Complete

200—C & K S-5 & S-6 56" LOOMS

Complete with auxiliary supplies. Excellent condition.

5 MILLION BOBBINS & SPOOLS FOR THE THROWING & WEAVING TRADES.

Nylon - Rayon - Silk & other synthetics.

All items subject to prior sale. WRITE, PHONE OR WIRE FOR FURTHER INFORMATION. This is only a partial listing.

Wm. Rabinowitz & Sons

TEXTILE MACHINERY, BOBBINS & SUPPLIES

214 - 222 Hamilton Street Phone HEmlock 3-7497 3-7498 Allentown, Pa.

FOR SALE

2—24 Arm Smith-Drum Skein Mercerizing Machines

1—100 Arm Buhlman Skein Dye Machine.

FRANK W. WHEELER CO.

1837 Ruan St. Phila. 24, Pa.

An Investment !

Productive advertising is an INVESTMENT rather than an EXPENDITURE.

"Searchlight" advertisers almost invariably report prompt and satisfactory results.

BE CONVINCED—send us your advertisement TODAY.

Address Classified Advertising Division

TEXTILE WORLD

330 W. 42nd St., New York 36, N. Y.

LIQUIDATING FOR IMMEDIATE SALE

2—Sanforizers, 50"—60", Duplex

1—Continuous Bleach Range

2—Scutchers, 50", 78", 110".

8—Dry Cans, 50" x 60" diameter.

3—Semi-Decators, 50", 60", 70".

6—Dye Becks, 6', 8', 12'.

10—Dye Jiggs, 50", 60", 70"

4—Tenter Frames, 30'—100' long x 50"—66" wide

3—Calenders, 50", 60", 70"

1—Hinnekins, Boil-Off, 66"

PARTIAL LIST — WE WELCOME YOUR INQUIRES

SOUTHERN OFFICE

IPA SOUTHERN, INC.

610 S. Carolina Nat. Bk. Bldg.

Greenville, South Carolina

Tel: 2-3561

IPA

NORTHERN OFFICE

INDUSTRIAL PRODUCTS OF AMERICA

140 Market St., Paterson, N. J.

Tel: Sherwood 2-6614 *Cables:* Texindus

REBUILT MACHINERY FOR IMMEDIATE DELIVERY

1—Parks & Woolson 72" Decatizer, Nash Pump & Motor
1—V. V. Tenter Frame 60' x 60" S/S Clips
1—W. & J. Tenter Frame 30' x 96"
2—V. V. 3 Roll Silk Calanders M. D.
1—Hercules 48" Self Balancing Extractor open top side mounted Motor
1—V. V. 42" Self Balancing Extractor M. D.
1—Set of 21 Dry Cans 72" x 23"
1—54" Verduin Hydraulic Embosser
1—10 Color V. V. Ribbon Printing Machine
2—Van Vlaanderen Tubers 64"
3—Paterson Tubers 64"
2—Paterson Beamers 60"
1—Measuregraph 60" Variable Speed Tubing & Examining Machine
1—Hermas Measuring & Inspection Machine 58"
2—60 gal. copper Jacketed Kettles, with Agitators M. D.
1—Elliot & Hall Flat Folder 54"
Motors & Drives of Various Sizes

1—60" VERDUIN HYDRAULIC 40 TON CALANDER
6—60" VERDUIN S. S. JIGGS
1—4 COLOR TEXTILE PRINT MACHINE 68"
1—2 COLOR TEXTILE PRINT MACHINE 68"
1—72" PNEUMATIC PADDER, 2 NEW RUBBER ROLLS
1—54" HINNEKENS BOIL-OFF MACHINE

SHerwood 2-7666 — SHerwood 2-7667
Moe Blank
DOMESTIC — EXPORT
TEXTILE MACHINERY
DYEING & FINISHING MACHINERY
523-525 E. 18th ST. — PATERSON 4, N. J.

WANTED

DYESTUFFS
Will buy your surplus and obsolete dyes and chemicals for cash.
NEW ENGLAND PRODUCTS CO.
91 Oliver St. — Boston, Mass.
Established 1919

WANTED—DYESTUFFS
Chemicals — Pigments — Solvents
Plasticizers — Plastics — etc.
By-Products — Wastes — Equipment
CHEMICAL SERVICE CORPORATION
80-10 Beaver St. — New York 5, N. Y.

WANTED
Flax wet ring spinning frame with 160 to 200 spindles using about 2 ½" ring.
W-4576, Textile World
330 W. 42nd St., New York 36, N. Y.

Partial Listing
200—UNIVERSAL #50 WINDERS
1—60 SPINDLE UNIVERSAL ROTO-CONER
1—40 SPINDLE UNIVERSAL ROTO-CONER
3—RUF HOLLOW SPINDLE TWISTERS
3—FOSTER SKEIN TO CONE WINDERS

N. Y. C. REPRESENTATIVES FOR NEW UNIVERSAL WINDING CO. MACHINERY

Gaines
FOR BEST VALUES IN REBUILT TEXTILE MACHINERY
GAINES TEXTILE MACHINERY CO., INC.
141 WEST 17TH ST., NEW YORK 11, N. Y.

ALSO
1—Scott Model Q Tester 2000 lb. Capacity
1—16 Spindle Sargent Balling Machine
List Your Surplus Equipment With Us

WANTED
3 CYLINDER WOOLEN CARD
60x60 Iron Cylinder-96 end Tape Condenser Double Rub
MODEL E SPINNING FRAME
All of the above must be in good condition and reasonably priced.
W-4685 Textile World
330 W. 42 St., New York 36, N. Y.

BIALEK'S BEST BUYS

JOHNSON 7-DRUM SLASHERS, 60"x30". S.S. AND TEFLIN.
ELECTRONIC MOISTURE CONTROLS, TEMP. CONTROLS, BEAM CREEL.
HAYES METAL SECTION BEAMS
PROCTOR & SCHWARTZ DRIER
FLUORESCENT LIGHTS.
UNIVERSAL NO. 50 CONE WINDERS, 1953 WITH PINEAPPLE ATTACHMENT.
EMULSION ROLLERS AND TROUGHS.
REINER WARPERS, CREELS.
SIZE KETTLES.
MISC. MILL SUPPLIES.

ALL EQUIPMENT OF NEWMARKET MFG. CO., DIVISION OF TEXTRON, INC., LOWELL, MASS. OUR REPRESENTATIVE ON PREMISES.

THEODORE BIALEK & CO.
6704 EMPIRE STATE BLDG. — NEW YORK 1, N. Y. — LONGACRE 3-4978-9
JACKSON AT 20TH AVE. — PATERSON, N. J. — LAMBERT 3-5886-7

this
Searchlight Section
of
TEXTILE WORLD

is an index of reliable sources for Used and Rebuilt textile machinery. Consult the *Searchlight Section* in regular issues for later offerings.

If you don't see what you want—ask for it. Ask the advertisers. They are constantly adding to their stocks and may have acquired just what you need.

FOR SALE

3—Sipp-Eastwood "101" Type D.T. Horizontal Beam Warping Machines reinforced for Nylon complete with Veri-Drive, etc.

1—600 End Magazine Creel with DX Tensions.

2—512 End Flat Pin Revolving Spool Type Creels, Chromium Dents 5 ft. high.

5—Sipp-Eastwood 60 Spindle Type BO Winders (Skein to Spool).

The above equipment in perfect condition and used but very little.

1—Gessner 3 cyl. double Napper Complete, for working 84" cloth, including 20 - 4" Rolls, 7½ H.P. motors and Drives for each cylinder.

1—Whitin Model J Quiller, 304 ends 3½" Gauge, 10½" Traverse.

1—Section Mill Warper Dressing Mill Pinless Type Complete with Compressor, Backbeamer and Motor Drive.

1—Royle French Index 600 Hook Jacquard Piano Card Cutter Complete.

COLLINS & AIKMAN CORP.
Sales & Salvage Division
51st & Parkside Ave., Philadelphia 31, Penna.

WE BUY AND SELL
TEXTILE MACHINERY
THROUGHOUT THE WORLD!
GEORGE W. EGAN
"The Machinery Man Known Everywhere"
WOONSOCKET, R. I. - Phone Woon 3258

DYEING MACHINES

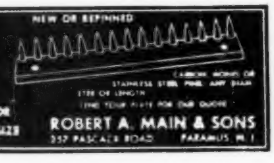
2—Smith Drum Rotary Dyeing Machines, 300 lb. & 200 lb., in excellent condition; and Extractors, 40", 48", 60" American Monel Open Top; also Stainless or Monel laundry type Washers, 42 x 84" & 42 x 96", very reasonably priced.

WILLIAMS MACHINERY CO.
37-37 9th Street, Long Island City, New York
STillwell 6-6666

MILLER MACHINERY CO.
66 RAILROAD AVE. PATERSON, N. J.
Tel. Sh 2-5467-8
Textile Machinery and Supplies
BOUGHT AND SOLD
Warpers • Winders & Quillers • Looms

HOSIERY MACHINES
used and rebuilt
KNITTERS—RIBBERS—LOOPERS
CYLINDERS—DIALS—TRANSFERS
HOSIERY NEEDLES AND PARTS
JOS. BRESANI
N. W. Cor. Hancock & Somerset Streets
Phila. 33, Pa.

MLC
SPECIALISTS IN SELLING AND PURCHASING TEXTILE MACHINERY OF QUALITY
A Dealer of Recognized Reliability For Over 25 Years
MACHINERY LIQUIDATING CO., INC.
520 Fifth Ave. OXford 7-0784 N.Y.C. 36, N.Y.



PARTIAL LIST

1 Sturtevant #5 Wool Stock BLOWER, Mtrzd. with Eriez Magnetic Separator, Magnets and Piping.
1 P&W Wet BRUSHING GIG 66", 2 cyl.
1 Textile CALENDER 3 roll 44".
1 S.L. Cotton CARD 40".
2 D&F 3 cyl. iron 60"x60" CARDS, 120 end Tape Condensers.
2 D&F 3 cyl. iron 60"x48" CARDS, 120 end Tape Condensers.
1 Gessner CRABBE 72" with 3 sets of rubber Squeeze Rolls.
1 Entwistle Magazine CREEL, 504 live ends.
2 P&W SEMI-DECATURS, 72" x 60" and 72" x 24", fully equipped.
1 Windle 72" DOUBLING & BOARDING MACHINE.
1 Kenyon Pin Tenter DRYER, 10 pass, 66".
1 Sargent Raw Stock DRYER, 72", with model M Feeder.
1 James Hunter Cone DUSTER 6'.
1 Fletcher 20" EXTRACTOR, S.S. Basket.
1 Gessner Vacuum EXTRACTOR 72".
5 Whitin Intermediate Broadband FEEDS 48".
6 Bahnson Model G HUMIDIFIERS.
4 C&K W3 auto. LOOMS 76".
34 C&K Veribest auto. LOOMS 82".
12 C&K W3 auto. LOOMS 82".
23 C&K W2 auto. LOOMS 82".
6 C&K auto. LOOMS 110".
1 Gessner D.A. NAPPER 18 rolls 72".
1 P&W D.A. NAPPER 24 roll 80".
1 Woonsocket S.A. NAPPER 12 roll 80".
1 D&F Mixing PICKER 6 bar 36".
1 C&M Mixing PICKER 12 bar 48".
1 S&L 40" OPENER & FINISHER PICKER UNIT.
1 Birch SCUTCHER 66" vacuum slot, pump, etc.
1 P&W Davidson High Speed 3 blade SHEAR 66½".
1 C&M SINGER 3 burner 84".
1 Terrell auto. Bobbin STRIPPER, model L.
3 Gessner 2 rubber roll SQUEEZE SETS 72".
1 B-C Warp TYING MACHINE model 8E.
1 Schweiter WINDER model MS, 21 spdls.

McDOWELL ASSOCIATES, INC

Executive Offices: 2568 Park Ave.
New York 51, N. Y.
Phone: MElrose 5-6741

Warehouse:
N. Front, Dock & Water Sts., Hudson, N. Y.
Phone: HUdson 8-3211

TEXTILE AUXILIARIES

WE SPECIALIZE IN FINISHING MACHINERY

THESE ITEMS IN STOCK FOR IMMEDIATE DELIVERY

"Rodney-Hunt"—True-shade—stainless steel dye becks, "Almost New."—4 8'—2 10' and 8 12' all complete.
1—Cook "Detwister" all Stainless Steel.
1—3 Roll 60" 10 Ton Pneumatic Padder.
1—2 "50" 10 Ton Pneumatic Padder.
1—2 "72" 15 Ton Pneumatic Hunter.
1—90' x 50" Winsor & Jessauld Tenter Frame with or without housing top opening St. St. Chain, enclosed Drive.
1—40' x 60" W. & J. Tenter Frame enclosed Drive. St. St. Top opening chain.
1—Habold 45" 2 Roll—60 Ton Hydraulic Schreiner Calender.
Also, Dry Cans of all sizes, Spare Pad Rolls and Calender Rolls, St. St. 150 Gals. heavy gauge mixing tanks.
A.C. & D.C. Motors from ¼ H.P. to 100 H.P. of all types.

Office—146 West River St.
Telephones—Dexter 1-9650, 1-8837

PROVIDENCE, R. I.

1—TOLHURST 40" EXTRACTOR—LIKE NEW—S.S.

6—SIPP SPINDLES WINDERS—60 SP. 1951

6 HIGH SPEED SIPP REDRAWS
AUTOMATIC KNOCKOFFS
60 SP.-Gate Tensions
1947-Self Opening
Spindleless-4½"-6" Trav.

20—U. S. Textile 1½ Lb. Pkg. D.D. Spinners—2 Motors

Pineapple Parts for Universal & Foster Coners

5 OVEREND SIPP WINDERS - 6" TRAVERSE

32 - No. 50 UNIVERSAL CONERS - for NYLON
"L" Drive, Gear Box "A", Pineapple, S.S. Rolls and Troughs

3—YARN CONDITIONING BOXES—1—H&W 1950. TYPE ST-2

2—ARNOLD RUBBER COVERING MACHINES

2—STROBOTACS
3—JOHNSON SLASHERS

14—C&K S-6 LOOMS—54" W.

FIBRE HEAD SPOOLS
50M—4 9/16" Trav. x 3" H.
300M—4½" Trav. x 3" H.
200M—6" Trav. x 3½" H.

5—INSPECTION FRAMES—1 WITH TRIM MASTER

PARTS & SUPPLIES FOR CONERS, DOUBLERS & TWISTERS
BOBBINS — SPOOLS — QUILLS — All Sizes & Types

PENNSYLVANIA SPOOL & EQUIPMENT CO.
530 N. FULTON ST. ALLENTOWN, PA. Phone 3-7545

You a target?

Let's face it . . . we're all targets!

If your plant is not ready with a disaster plan, better act now. There's not a single American plant that's out of range of an intercontinental bomber—and fires, floods, tornadoes or explosions can kill you just as dead as an atom bomb.

It costs next to nothing to take a few simple steps which may save hundreds of lives. Here they are. Check them off today.

☐ **Call your local** Civil Defense Director. He'll help you set up a plan for your offices and plant—a plan that's safer, because it's integrated with community Civil Defense action.

☐ **Check contents** and locations of first-aid kits. Be sure they're adequate and up to date. Here, again, your CD Director can help. He'll advise you on supplies needed for injuries due to blast, radiation, etc.

☐ **Encourage personnel** to attend Red Cross First-Aid Training Courses. They may save your life.

☐ **Encourage your staff** and your community to have their homes prepared. Run ads in your plant paper, in local newspapers, over TV and radio, on bulletin boards. Your CD Director can show you ads that you can sponsor locally. Set the standard of preparedness in your plant city. There's no better way of building prestige and good community relations—and no greater way of helping America.

Act now . . . check off these four simple points . . . lives are at stake . . . have you a right to delay?

Index to ADVERTISERS Keyed by PRODUCT

A HELP TO YOU. This unique TEXTILE WORLD index, particularly if consulted for two or more consecutive issues, affords a valuable source of information on the latest products and services available to the textile industry. Its comprehensiveness is the result of the fact that TEXTILE WORLD, having the largest circulation and highest readership of any textile-mill magazine in the world, carries the largest volume of advertising.

HOW TO USE. First, look in the table below and find the letter that designates the class of supply or service in which you are currently interested. Then consult in the index the page numbers that are followed by that letter.

A. Air Conditioning, Air Cleaning.
B. Building Construction and Maintenance, Paints, Yard Equipment, Water Supply
C. Chemicals and Dyestuffs
D. Cleaning Equipment
E. Dyeing, Finishing, and Cloth Room Equipment and Supplies
F. Electrical Equipment—Motors, Controls, Lighting, Etc.
G. Fibers, Yarns, Mills, Finishing Companies
H. Fluid Handling—Compressors, Pumps, Piping, Valves, Fittings
K. Instruments: Measuring, Metering, and Weighing Apparatus
L. Knitting-Mill Equipment and Supplies
M. Lubricants and Lubrication Equipment
N. Management Services—Factors, Consulting Engineers, Insurance, Personnel Facilities, Plant Sites, Etc.
O. Materials and components for Machinery and Equipment
P. Materials Handling, Packaging, and Shipping Facilities
Q. Power Generation and Transmission (see also Electrical Equipment)
R. Weaving and Warp Preparation Equipment and Supplies
T. Yarn-Production, Twisting and Winding Equipment and Supplies

This index is published as a convenience to the reader. Great care is taken to make it accurate, but Textile World assumes no responsibility for errors or omissions.

Acme Steel Co.	46	P
Alemite Div., Stewart-Warner Corp.	128	M
Allen-Bradley Co.	3rd Cover	F
Allen Mfg. Co.	198	O
Allis-Chalmers	35-38	F, Q
American Crayon Co.	215	E, L, R
American Moistening Co.	40	A
American Viscose Corp.	50-51	G
Appleton Machine Co.	175	F
Armco Steel Corp.	193	O
Armour & Co.	185	C
Armstrong Cork Co. (Cots)	24-25	T
Armstrong Cork Co. (Roll Covering)	183	R
Askania Regulator Co.	160	F, K
Atkinson, Haserick & Co.	133, 135	T
Atlantic Rayon Corp.	204	G
Barber-Colman Co., Textile Div.	213	R
Bendix Aviation Corp., Eclipse Machine Div.	30	T
Benjamin Electric Mfg. Co.	174	F
Boger & Crawford	169	G
Borne, Scrymser Co.	171	C
Bristol Co., The	64	K
Brush Electronics Co.	188	K
Burlington Eng'g. Co., Inc.	55	E
Caldwell Co., Inc., W. E.	215	B, E
Celanese Corp. of America, Chemical Div.	140	C
Yarn Div.	66-67	G

TENNESSEE CORPORATION

SULPHUR-DIOXIDE Is RIGHT For YOUR JOB!

If you have a job that calls for a superior reducing or bleaching agent, antichlor, pH control or neutralizer . . . Tennessee's highest quality Sulphur Dioxide will do it better. Usually a more efficient and economical operation can be had through the use of this chemical (SO_2) with its varied and extended uses.

Let our technical staff show you how you might employ Tennessee's highest quality Sulphur Dioxide to greatest advantage.

CONTAINERS
- Cylinders
- Ton Drums
- Tank Trucks
- Tank Cars

Samples, Specifications and Detailed Information on Request.

TENNESSEE CORPORATION

617-29 Grant Building, Atlanta, Georgia

For more information, write direct or use Reader Service post card. 227

HEIM . . . *Unibal* SWEEP STICKS

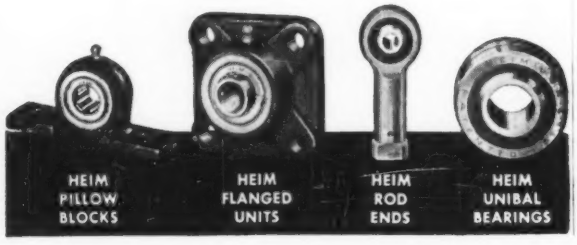
This Heim Unibal Spherical Bearing is assembled as an integral part of the sweepstick. It corrects any misalignment at the stud.

Looking at this cutaway view of the bearing, we see how the single ball oscillates in bronze bearing races to give longer life & smoother operation.

The body of the Heim sweepstick is made of heavy cotton fabric bonded in rubber. A long wearing, self aligning Unibal bearing protects the stick from wearing egg shaped at the stud. The result is smoother pick action and longer life.

Please write for list of sizes and prices — or a sample for testing if you would like.

THE **HEIM** COMPANY
FAIRFIELD, CONNECTICUT



Century Electric Co.	48	F
Ciba Co	176-177	C
Cities Service Oil Co.	149	M
Clark Equipment Co., Industrial Truck Div.	153	P
Clinton Foods Inc.	184	C
Clipper Belt Lacer Co.	215	Q
Cole Mfg. Co., R. D.	192	B, E
Colgate-Palmolive Co.	6	C
Colson Corp.	188	P
Corn Products Refining Co.	191	C
Crane Co.	62	H
Crompton & Knowles Loom Wks.	13	R
Crown Engineering & Sales Co.	216	K
Crucible Steel Co.	19	O
Custon Scientific Instruments, Inc.	217	K
Cyclone Fence Dept., American Steel & Wire Div., U. S. Steel Corp.	182	B
Dary Ring Traveler Co.	197	T
Dayton Rubber Co., The Textile Div.	60-61	BT
Deutscher, Spinnereimaschinenbau Ingolstadt	41	T
Diehl Mfg. Co.	63	F, Q
Dolge Co., C. B.	194	B
Draper Corporation	1	R
Dronsfield Bros., Ltd.	208	T
du Pont de Nemours & Co., E. I. Dyestuff Dept.	151	C
Plastic Div.	209-210	O
Economy Baler Co.	215	P
Eisenberg Fibers, Inc.	217	G
Emery Industries, Inc.	139	C
Foster Machine Co.	124B	T
Foxboro Co., The	56	K
Franklin Process Co.	124A	G
Gair Co., Inc., Robert	14	P
Gardner-Denver Co.	59	H
Gaylord Container Corp.	20	P
Geigy Chemical Corp., Dyestuff Div	2	C
General Dyestuff Co.	195	C
Gessner Co., David	201	E
Glasco Equipment Corp.	162	E
Goodrich Chemical Co., B. F.	57	C
Haskell-Dawes Machine Co., Inc.	205	T
Heim Co., The	228	R
Heineman Corp., O., Div. of Aetna Industrial Corp.	212	G
High Duty Alloys Ltd.	161	O
Hinde & Dauch	170	P
Hubinger Co., The	187	C
Hunter Machine Co., James	47	E
Huyck & Sons, F. C.	214	E
Hyatt Bearings Div., General Motors Corp.	131	O, Q
Industrie-Werke-Karlsruhe	230	E
International Salt Co., Inc.	122	E
Ives Co., L. T.	202	I
Jenkins Sons Inc., M. W.	159	E
Jiffy Textile Marker Co.	217	E, I, R
Johns-Manville	178	O

Keever Starch Co.	181	C
Kenwood Mills, Noone Industrial Fabrics Div.	214	E
Kidde & Co., Inc., Walter	199	RT
Kidde Mfg. Co.	168, 189	I R
Kuljian Corp., The	219	N
Laurel Soap Mfg. Co.	166	C
Lawlor Co., S. C.	207	D
Lazenby Co., The F. A.	194	T
Link-Belt Co.	7	G
Loper Co., Ralph E.	218	N
Lowell Shuttle Co.	172	RT
Lunkenheimer Co.	71	H
Main, Inc., Chas. T.	216	N
Marshall & Williams Corp.	173	E
Micro Switch Div.	70	F
Milton Machine Wks., Inc.	194	R
Minneapolis-Honeywell Reg. Co. Industrial Div.	52-53	K
Micro Switch Div.	70	F
Moisture Register Co.	200	K
Monsanto Chemical Co. Inorganic Chem. Div.	155	C
Textile Chemicals Div.	33	C
National Aniline Div., Allied Chem. & Dye Corp.	17	C
New Departure Div. of General Motors Corp.	9	O Q
New England Bobbin & Shuttle Co.	211	R
N. Y. & N. J. Lubricant Co.	190	M
Nopco Chemical Co.	15	C
Orr & Sembower, Inc.	16	Q
Perfecting Service Co.	190	H
Perkins & Son, B. F.	196	E
Pittsburgh Corning Corp.	22-23	B
Platt Bros. Sales Ltd.	135	T
Procter & Gamble	124	C
Proctor & Schwartz, Inc.	180	E T
Reiner Inc., Robert	18	R
Reliance Electric & Engineering Co.	165	F
Rhoads & Sons, J. E.	5	R
Richards-Wilcox Mfg. Co.	186	P
Ridge Tool Co.	164	H
Riggs & Lombard, Inc.	42	E
Robert & Co., Associates	2nd Cover	N
Rohm & Haas Co.	49	C
Rome Soap Mfg. Co.	215	C
Roy & Son Co., B. S.	214	T
Ryerson & Son Inc., J. T.	120	O
Saco-Lowell Shops	126	T
Sandoz Chemical Wks.	45	C
Sarco Co., Inc.	58	H
Sargent's Sons Corp., C. G.	44	E
Schlafhorst & Co., W.	11	RT
Sinclair Refining Co.	32	M
SKF Industries, Inc.	54	O Q
Societe Alsacienne De Constructions Mecaniques	133	T
Socony-Vacuum Oil Co., Inc.	12	C
Sonoco Products Co.	10	E T
Southern Shuttles Div. Steel Heddle Mfg. Co.	163	R

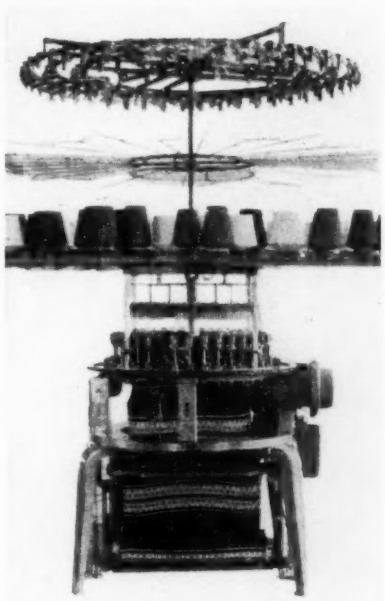
WESCO... tops 'em all...

ELECTRIC STOP-MOTIONS
FOR
UNDERWEAR · OUTERWEAR · HOSIERY

Look for "WESCO"

ON ALL THESE KNITTING MACHINES

Bentley
Blackburn
Brinton
Cooper
Crane
Edmos
Fidelity
Jacquard
Lamb
Leighton
Mellor, Bromley
Ordnance
Scott & Williams
Stafford & Holt
Stibbe
Supreme
Tompkins Bros.
Wildman
Wildt



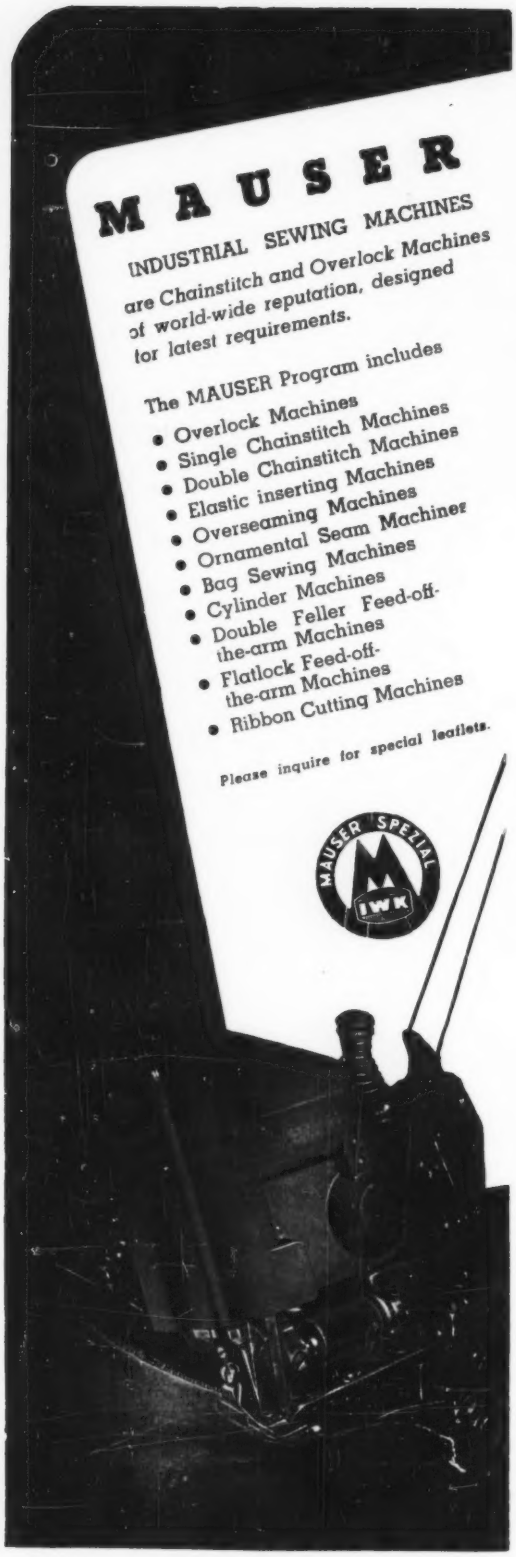
Style R—STWY
BRINTON-MODEL MODERNA
128 End Double Contact Wesco
Electric Stopmotion

Manufacturers and knitters all over the world buy and specify Wesco. They know from experience Wesco stopmotions get the best out of the machines they build and buy.

Wesco is the "safety-first" word for Superior Knitting. When you purchase new knitting machine—Specify "Wesco" Electric Stopmotions.

STOP-MOTION
DEVICES CORPORATION
1471-77 Fulton St. Brooklyn 16, N.Y.

Another of a Series of Knitting Machine Builders. Others to follow



INDUSTRIE-WERKE KARLSRUHE
AKTIENGESELLSCHAFT KARLSRUHE, GERMANY

Standard Mill Supply Co.	218	P
Standard Pressed Steel Co.	216	O
Stanley Works, The	179	K
Steel Heddle Mfg. Co.	163	R
Stein Hall & Co., Inc.	28	C
Sterling TNA • 5	122	E
Stop-Motion Devices Corp.	229	L
Stowe-Woodward, Inc.	27	E
Superior Combustion Industries, Inc.	219	Q
Swift & Co., Industrial Soap Dept.	31	C
Synthane Corp.	212	T
Tennessee Corp.	227	C
Toledo Pipe Threading Mach. Co.	206	H
Tompkins Bros. Co.	192	L
Torrington Co., The (Needles)	137	L
Turbo Machine Co.	72	T
Unionmatex, Textilmaschinen-Union, G. M. B. H.	39	E RT
US Bobbin & Shuttle Co.	201	RT
U. S. Rubber Co., International Div.	203	G
Universal Winding Co.	8, 26	T
Veeder-Root, Inc.	4th Cover	K
Versenes Chemical Co., Inc.	173	C
Vickers, Inc.	65	E H O
Visking Corp., The	29	P
Warner & Swasey Co.	43	T
Watson-Williams Mfg. Co.	219	R
Westinghouse Electric Corp., Micarta Div.	68-69	O
Whitin Machine Works	21	T
Wildman Mfg. Co.	167	L
Winsor & Jerauld Mfg. Co., Inc.	156	E

PROFESSIONAL SERVICES

Kuljian Corp.	219
Loper & Co., R. E.	218
Main & Co., Charles T.	216
Robert & Co., Assoc.	Second Cover

SEARCHLIGHT SECTION
(Classified Advertising)
H. E. Hilty, Mgr.

EMPLOYMENT

Positions Vacant	221
Positions Wanted	221, 222
Employment Services	221, 222

BUSINESS OPPORTUNITIES

Offered	222

EQUIPMENT
(Used or Surplus New)

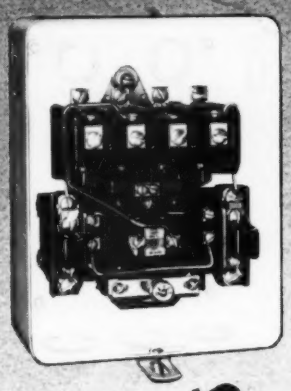
For Sale	222-225

WANTED

Equipment	224

ADVERTISERS INDEX

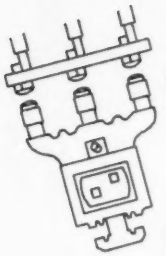
Bialek Co., Theodore	224
Blank Co., Inc., A & M.	222
Blank, Moe	224
Bresani, Joseph	225
Chemical Service Corp.	224
Collins & Aikman Corp.	225
Egan Inc., George W.	225
Fitzgerald, James E.	222
Fortune Personnel Service	222
Gaines Textile Machinery Co.	224
Industrial Products of America	223
IPA Southern Inc.	223
Machinery Liquidating Co., Inc.	225
Machinery Sales Corp.	221
Main & Co., Charles T.	216
Main & Sons, Robert A.	225
McDowell Assoc., Inc.	225
Miller Machinery Co.	225
New England Products Co.	224
Pennsylvania Spool & Equipment Co.	225
Rabinowitz & Sons, Wm.	223
Raymond Service Inc., Charles	222
Republic Textile Equipment Co.	222
Robert & Co., Assoc.	Second Cover
Textile Auxiliaries	225
Van Vlaanderen Machine Co.	220
Williams Machinery Co.	225
Wheeler Co., Frank W.	223

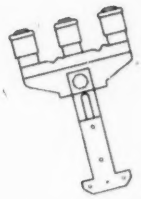


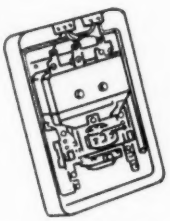
Bulletin 709 Solenoid Starter, Size 1. Max Ratings: 5 hp, 220 v; 7½ hp, 440-550 v. Note white interior.

Reasons why I buy Allen-Bradley Controls for my mill

Straight Up and Down Solenoid Motion

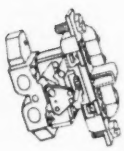






Simple Design One Moving Part

Maintenance Free Contacts



Easy to Install

Reliable Overload Relays

This adds up to QUALITY CONTROL . . . good for millions of trouble free operations. No contact maintenance. Reliable overload relays protect the motor under all operating conditions.

Write for the A-B Handy Catalog which lists a broad line of motor controls to meet your textile mill needs. Specify Allen-Bradley controls.

Allen-Bradley Co.
120 W. Greenfield Ave., Milwaukee 4, Wis.

In Canada
Allen-Bradley Canada Limited, Galt, Ont.

A-B Quality

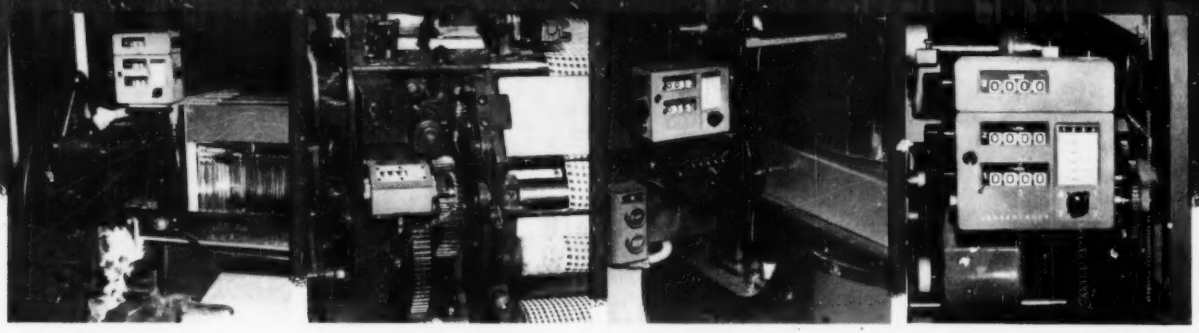
ALLEN-BRADLEY
SOLENOID MOTOR CONTROL
QUALITY

For more information, write direct or use Reader Service post card.

THIS COMPLETE VEEDER-ROOT "Countrol Package"

gives you AUTOMATIC UNIFORMITY all through your Mill . . . with New VEEDER-ROOT COUNTERS

. . . on Looms | **. . . on Frames**



2-3-4 Pick Counter on Loom

Cut Meter on Loom

2-3-4 Hank Counter and Predetermining Counter on Drawing Frame

2-3-4 Yardage Counter and Predetermining Counter on Spinning Frame

On looms, 2-3-4 Pick Counters keep accurate production records and provide a basis for wage payment . . . while Cut Meters help maintain uniformity of cut-lengths of cloth, which is insisted upon today by the cutting-up trades.

On frames and other preparatory equipment, Hank, Yardage and Predetermining Counters hold can-variation to the minimum . . . and make it possible to run the largest economical packages.

This complete Veeder-Root "*Count*rol Package" adds up to better, automatic uniformity all through the mill. And that's why it pays *any* mill to get this Package of new and modern Veeder-Root Counters, when modernizing present machinery or buying new. Get in touch with the nearest Veeder-Root office *today*.

VEEDER-ROOT
INCORPORATED
"The Name that Counts"

HARTFORD 2, CONN. • GREENVILLE, S. C.

Chicago 6, Ill. • New York 19, N. Y.
Montreal 2, Canada • Dundee, Scotland
Offices and Agents in Principal Cities